A Demographic Study of Adolescent In-patients at Lentegeur Psychiatric Hospital 1986-1990: Implications for Policy and Intervention.

By

Jennifer M Wallis

Dissertation
submitted in fulfillment of
the requirements for the degree

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in
EDUCATIONAL PSYCHOLOGY
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SUPERVISOR: S van der Hoorn

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Abstract

The aim of the proposed study is to evaluate demographic factors and treatment characteristics contained in the historical records of those treated as in-patients at the Sonstraal Adolescent unit of Lentegeur Hospital, during the period 1986 to 1990.

This demographic study details the following aspects of the adolescent in-patients: size, that is, numbers of those admitted to the unit; composition, including age, sex and area. Treatment characteristics such as reasons for admission, diagnosis of psychopathology, referral agent on admission and discharge and length of stay in the unit are considered.

The data for the study have been extracted from the clinical records contained at Sonstraal, namely, the 'Clinical Summary on Discharge' form. This form is completed by the therapist of each adolescent attending the unit. The EpiInfo computer programmes have been utilised to create a data base and to select the appropriate procedures and statistics which form the basis for data analysis and interpretation.

Data interpretation includes an analysis of the emerging trends and details the implications for policy issues, unit staffing and treatment options. Analysis of the trends and comparisons with literature findings have facilitated the generation of hypotheses which could be tested in future studies.

This study therefore provides a working document for future prioritising and planning of in-patient, out-patient and community mental health services to adolescents, their families and communities. This involves recommendations for intervention and community involvement. In addition, the study provides a basis for future research into adolescent mental health care.

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Chapter 1

Introduction

1.1 Background, Actuality and Motivation

Background details on the Sonstraal adolescent unit and the actuality of practice within the unit have been obtained from the introductory pamphlet to the unit and from interviews with the present consultant psychiatrist and the consultant psychiatrist at the time of the study. The background and actuality therefore provides the context of the study and together with trends noted in a review of the literature, will inform the analysis of the data obtained from the records of in-patients at Sonstraal during 1986 to 1990.

A study of the adolescent in-patients admitted to the Adolescent Unit, Sonstraal at Lentegeur Psychiatric hospital is important for a number of reasons, not least of which is that it is the only adolescent in-patient unit in the Western Cape. Other psychiatric services for adolescents, in the Western Cape include Tygerberg hospital (primarily out-patient treatment with admission possibilities for a few days), William Slater unit at Groote Schuur hospital (a psychiatric day hospital for older adolescents) and Red Cross Children's Hospital, Child and Family Unit (an out-patient clinic).

The geographical location of Lentegeur Psychiatric Hospital is Mitchell's Plain in the Western Cape. The Sonstraal adolescent unit was moved from Valkenberg hospital to Lentegeur hospital in 1986, accounting for this study of the records of in-patients beginning in 1986. The hospital

is administered by the Department of Health and Welfare, House of Representatives of the Tricameral Parliamentary system indicating the political context of its' inception. Referrals to the Sonstraal unit are mainly coloured adolescents, however adolescents from all race groups are accepted. (In this study Swartz' (1987) has been followed in referring to coloured as a racial group where necessary for demographic clarity. The writer/researcher distances herself from any racially discriminating connotations).

As the Sonstraal Adolescent unit constitutes the context of the present study, it is necessary to inform regarding the background, philosophy and functioning of the unit. Sonstraal provides treatment for school-going teenagers of average intelligence, between the ages of 12 to 18 years, who, together with their families, are motivated for treatment.

Referral sources include a wide variety of people who are 'concerned about the adolescent' (Sonstraal Introductory Pamphlet), such as medical doctors, social workers, psychologists, teachers, school principals, school nurses, community nurses and parents.

The professional team consists of psychiatrists, psychologists, medical doctors, an occupational therapist, a teacher, a social worker and psychiatric nurses. The philosophy of the unit is based on the assumption that each adolescent 'is a unique individual with his/her own potential for growth' (Sonstraal Introductory Pamphlet).

Exclusionary criteria include those who have a pending or extensive police contact history and those who are currently using drugs. Furthermore, other patients who would be excluded, as discussed with the consultant psychiatrist, include those patients who at admission are floridly psychotic and who are first settled in an adult ward; mentally handicapped patients, although mild mental handicapped is negotiable and adolescents diagnosed as displaying conduct disorder who may be prematurely discharged.

The treatment programme for all residents includes individual therapy, group therapy, family therapy, occupational therapy and a daily school programme. The use of medication as a form of treatment is in general not advocated and will therefore not be reported on and discussed. The average length of stay is planned to be roughly six weeks, although some adolescents may be admitted for an assessment period of two weeks and others may stay for a number of months.

Some noteworthy changes to the unit over time include changes in capacity and service delivery. The capacity of the unit was initially fifteen, but was increased to nineteen in 1989. During the period 1986 to 1989, Sonstraal was run as an in-patient unit only, but in 1990 out-patient treatment was introduced as part of the service delivery system. This change in service delivery, together with the requirements of this study as a minor dissertation, have influenced the termination of the study of in-patient records at the end of 1990.

The background to the Sonstraal adolescent unit and actuality of practice therefore, together with trends noted in a review of the literature, provides the context of the study. A review of the literature provides additional background to the study and a basis from which to evaluate the data obtained from the records of adolescent in-patients.

Psychiatric research advances through the correlation between clinical findings and socio-demographic variables, such as in epidemiological studies. In epidemiological studies, distribution, incidence, prevalence and duration of disease are studied and international and cross-cultural comparisons drawn (Kaplan & Sadock, 1991). Implicit in the research study are theoretical frameworks such as the psychiatric model, various psychological theories and socio-cultural models.

The consensus of prevalence rates for psychiatric disorders from community studies (Costello, 1989; Leslie, 1974; Rutter, Graham, Chadwick & Yule, 1976) and primary health-care studies

(Giel, de Arango & Climent, 1981) indicate that approximately 21% of children and adolescents require mental health services. Prevalence rates, when contrasted with numbers of adolescents receiving mental health services indicate an alarming level of unmet needs among adolescents. It has been found that 2% of adolescents receive specialty care in the United States of America and of these 0,6% receive care in mental health institutions (Burns, 1991). Although there are no figures for the total number of coloured adolescents in the Western Cape receiving mental health care, the percentage of adolescents treated at Lentegeur hospital amounts to 0,02% of the estimated population of adolescents in the Western Cape. This confirms the picture of an alarmingly high rate of 'unmet' need for mental health care among coloured adolescents in the Western Cape.

Within this group of adolescents who do receive care, demographic and treatment factors reveal certain trends. Demographic studies report that a higher percentage of male adolescents were admitted to all types of mental health facilities (Thompson, Rosenstein, Milazzo-Sayre & MacAskill, 1986). Variation in diagnosis by the level of care is not significant (mostly adjustment and behaviour disorders are observed across all levels of care) except that affective disorders dominated inpatient settings (Burns, 1991). Girls and younger adolescents appeared more at risk for emotional disorders while boys and older adolescents were more at risk for behavioural and 'any' disorders (Costello, 1989).

An examination of sources of referral indicates that non-medical sources refer to outpatient and partial hospitalisation services, and that for adolescents partial hospitalisation is being used as a transitional service from inpatient care back into the community (Burns, 1991).

The importance of the social context and complex patterns of inter-connections between the individual and family sub-systems and the broader sociocultural nexus within which they operate, has been demonstrated (Wollkind & Rutter, 1985; Dawes & Donald, in press; Venter &

Zeelie, 1992).

The period of 'adolescence' raises dilemmas concerning the validity of diagnosis of psychiatric disorders and implications for treatment. Although there is a natural reluctance amongst clinicians to diagnose psychiatric disorder in adolescence and a tendency to focus on evidence of disturbance in maturational processes (Serrano, McDanald, Goolishan, Macgregor & Ritchie, 1962), this approach may mask the potential severity of the disturbed adolescent's condition (Parry-Jones, 1985) and result in less than adequate treatment. It is nevertheless important to understand the particular features associated with developmental changes in adolescence (Graham & Rutter, 1985).

Concerning the diagnoses of psychiatric conditions, Graham & Rutter (1985) found that 40% of adolescents showed emotional disorders of some kind and 40% conduct disorders. Burns (1991) found that affective disorders dominated in in-patient settings. In-patient figures for psychoses range from 8,5% (Weiner & del Gaudio, 1976) to 25% in older adolescents (Warren 1965 a,b).

The consensus from cross cultural studies seems to indicate that differences in prevalence rates can be accounted for by differences in presentation of symptoms (German, 1987; Nichter, 1981). Thus, uneven demographic distribution of these 'culture-bound' symptoms and syndromes in various populations and sub-groups makes it likely that social factors play a role in their genesis and perpetuation (Reiger, Myers, Kramer, 1984; Swartz, Blazer, George, & Landerman, 1986).

Recommendations for the organisation of adolescent health services increasingly emphasise the importance of multiagency systems of care for youth who are seriously emotionally disturbed (Burns, 1991; England & Cole, 1992; Jack, Lear & Klerman, 1988). This involves a decentralisation of services (Jack et al, 1988) and community care with an emphasis on prevention (Bearinger & McArney, 1988; Phillips, 1986).

Despite contextual differences, there are three major principles underlying the current emphasis of services to adolescents which can be broadly applied; namely, that they should be served in the least restrictive setting possible, that they should be served in the community wherever possible and that family focused treatment should be provided (Burns, 1991; England & Cole, 1992; Friedman & Street, 1985; Knitzer, 1982).

A study of mental health services to adolescents which researches epidemiology, intervention and outcome, is particularly relevant at this point in the history of mental health services internationally, (Jemerin & Phillips, 1988; Bearinger & McAnarney, 1988) and in South Africa (Parry, Yach & Tollman, 1992). Historical studies have been noted as making an important contribution to the understanding of current issues (Parry-Jones, 1985). Policy orientated research, although operating within the context of existing policy or practice and therefore limited in its generalisability, has been growing in importance as an academic study because of its indirect and long-term influence in decision making through the gradual accumulation of research results (Nisbet, 1988).

The magnitude and complexity of social and structural pressures facing South African youth, is undisputed (Bundy, 1992). The inadequacies and virtual collapse of the educational system (Donald, in press; Hartshorne, 1992; Mokwena, 1992) have contributed to the disintegration of society (Hartshorne, 1992). Societal pressures impact on and interact with the individual in ways which lead to an increase in family pressures (Dawes, 1990; Flisher, Ziervogel, Chalton, Leger & Robertson,b, 1993; Ramphele, 1992; Venter & Zeelie, 1992), sexual violence (Dawes & Donald, in press; Mokwena, 1992) and community violence (Mokwena, 1992; Flisher et al,b, 1993; Harbin & Madden, 1983). South African studies have shown that the adolescent response to societal pressure is increasingly toward suicidal ideation and attempt (Flisher,a, 1993) and behavioural problems such as aggressiveness and anti-social behaviours (Moodley & Pillay, 1993). Thus, the political, economic, social and educational pressures appear to be creating

a context which facilitates disturbance and amplifies maturational and transitional difficulties among adolescents.

In the transitional political context of South Africa, health research priorities are under review. It has been emphasised that research in the South African situation, at least in the short and medium term, should be guided by the relevance of research for health policy formulation and health systems reform (Parry, Yach & Tollman, 1992). Restructuring of services to include a more community focused orientation is a priority and community participation in this process is required (Shisana & Versveld, 1993). Considering the present crisis facing South African youth and research trends in the literature both internationally and locally, the need for an analysis of present mental health services, is undisputed.

1.2 Aim of the Study

The aim of the present study is to analyse the historical records of those treated as in-patients of the Sonstraal adolescent unit at Lentegeur Hospital, during the period 1986 to 1990. The analysis will consider demographic variables and treatment characteristics of the unit. The following demographic details of the adolescent in-patients have been considered : size, that is, numbers of those admitted to the unit; composition, including age, sex and area. Treatment characteristics such as reasons given for admission, diagnosis of psychopathology, referral agent on admission and discharge, length of stay in the unit and changes noted over the period under review, have been considered.

This analysis aims to provide a basis for future prioritising and planning of inpatient, out-patient and community mental health services to adolescents, their families and communities. This involves recommendations for intervention and community involvement. Moreover, this analysis, in generating hypotheses for further investigation, aims to provide a basis for future research into adolescent mental health care.

Chapter 2

Literature Review

In the review of the literature, the major areas impacting on the study such as demographic details, adolescent psychopathology and treatment issues will be considered. First, however, views on the definition of adolescence will be discussed.

2.1 Definition of Adolescence

Definitions of adolescence vary. Some definitions, based on endocrinological and social factors, consider adolescence beginning at puberty and ending at an 'adult' life event such as high school graduation or marriage. Other definitions are guided by ages 13 through 19 years (Graham & Rutter, 1985).

The definition of adolescence provided by the Shorter Oxford English Dictionary states that adolescence is the period of growing up between childhood and maturity extending over a period of about ten years. Graham & Rutter (1985) follow this definition and comment that no precise limits are given due to the individual variations in the timing of the maturational processes and because physical and emotional aspects of development do not necessarily run in parallel (Graham & Rutter, 1985).

Thompson et al (1986) include in their definition of 'adolescence', people within the age range ten years to twenty one years including all who may be dealing with so-called adolescent issues.

This age range is further divided by the above researchers into three subgroups: early adolescence, age 10 to 14 years; middle adolescence, age 15 to 17 years and late adolescence, age 18 to 21 years.

In this study, the definition of adolescence will follow the age range criteria of the Sonstraal adolescent unit, namely adolescents within the 13 to 18-year age range who are attending school. This local definition falls within the constraints indicated by the literature.

2.2 Demographic Details of Adolescent Mental Health

The prevalence rates of psychiatric disorders in adolescence are contrasted with the numbers actually receiving specialty care. Demographic details discussed are age, sex, race and socio-economic issues.

International general population studies on the prevalence of psychiatric disorder in adolescence, although limited in number, indicate prevalence rates of between 10% to 21%. Leslie (1974), in a survey of 13- and 14-year-old's, found that 21% of boys and 14% of girls had disorders of a severity warranting referral to a clinic. Lavik (1977) concurred, finding that 21% of adolescents had some form of psychiatric disorder.

In the Isle of Wight Study (Graham & Rutter, 1973; Rutter, Graham, Chadwich & Yule, 1976), generally recognizable psychiatric disorders were found in 10% to 15% of the 14- and 15-year-old's studied. However, the prevalence rate rises to 21%, if a further group who reported marked suffering associated with psychiatric symptomatology are included.

Costello (1989) in a review study concluded that a point prevalence rate close to 20% is supported by community studies from New Zealand to Puerto Rico. A four-country study (Sudan, Columbia, India and the Phillipines), done in primary health-care settings, gave a prevalence rate which varied from 12% to 29% for child psychiatric disorders (Giel, de Arango & Climent,

1981). The major reason for the differences in reported sites of these developing countries, was the consultation patterns for children with mental retardation and associated behaviour problems (Nikapota, 1991).

The consensus of prevalence rates for psychiatric disorders from community and primary health-care studies indicate that approximately 20% of children and adolescents require mental health services.

These figures then give some indication of the need for treatment among children and adolescents. These prevalence rates can however, be contrasted with overall estimates of numbers of adolescents (according to national USA surveys) who receive specialty mental health services. According to these surveys, 2% of the adolescent population receive specialty care and of this, 1,3% receive care in the community and 0,6% in institutions (Burns, 1991). This indicates a considerable unmet need for mental health services among adolescents.

Demographic details of adolescent mental health service use are as follows. In a study comparing different levels of care and adolescent service use, Burns (1991) found that males were more likely than females to use partial hospitalisation and residential treatment centers. Males and females made almost equal use of outpatient and inpatient services. Thompson et al (1986) found that the percentage of male adolescents admitted to all types of mental health facilities, tended to increase linearly with age. Males constitute 65% to 70% of adolescent state and county hospital admissions.

In a study based in the United States of America, Thompson et al (1986) found a dual system of care to be operating in the specialty health sector, with private facilities largely treating white adolescent patients and public facilities treating black.

Costello (1989) reviews five recent community studies, from different countries, of the epidemi-

ology of childhood psychopathology (including age ranges of 4 to 19 years). In all studies the direction of effect for socio-demographic factors was highly consistent, although strength of associations varied. As far as sex is concerned, girls more than boys were at risk for emotional disorders and boys more than girls for behavioural and 'any' disorders. Concerning age variables, younger rather than older adolescents were at risk for emotional disorders and older adolescents more than younger for behavioural and 'any' disorders. Lower rather than higher socioeconomic status was a risk factor for all disorders. Because of the consistency across the diversity of settings, general conclusions can be drawn about the importance of, for example, poor educational achievement and family dysfunction as risk factors for psychiatric disorders.

Evidence from research in various countries shows that psychosocial disorders vary greatly in frequency according to geographical area. Rates are highest in inner city areas marked by poverty, over-crowding and low social status and lowest in small towns or rural communities (Wollkind & Rutter, 1985). It is highly probable that area influences in some way predispose or protect children from psychosocial disturbances (Wollkind & Rutter, 1985). This demonstrates the importance of the social context and complex patterns of inter-connections between the individual and family sub-systems broader sociocultural nexus within which they operate.

At the same time, it must be recognised that there are marked differences between families in the way they respond to 'socioeconomic disadvantage' (Wollkind & Rutter, 1985). Moreover, as Dawes & Donald (in press) argue, responses to adversity are influenced by the individual's socially constructed subjectivity.

The international studies cited and demographic findings provide a basis for comparisons and contrasts with findings from South African studies. They must however be applied, with reservation, in the South African context.

2.3 Adolescent Psychopathology

The diagnosis of psychiatric disorders in adolescence provides a particular challenge for professionals and are important indicators of the type of psychological problems experienced by adolescents receiving treatment in a psychiatric hospital.

The most commonly presenting problems and patterns of disturbance appearing during adolescence have been described as the following: emotional problems and disorders, eating disorders, parent-adolescent estrangement and social alienation, anti-authority and anti-social behaviour, sexual problems and problems in school (Parry-Jones, 1985).

Psychiatric disorders occurring during adolescence are influenced by maturational processes and by transient disturbances that are associated closely with adolescent developmental changes (Graham & Hersov, 1985). Although there is a natural reluctance amongst clinicians to diagnose psychiatric disorder in adolescence and a tendency to focus on evidence of disturbance in maturational processes (Serrano et al, 1962), this approach may mask the potential severity of the disturbed adolescent's condition (Parry-Jones, 1985).

Of the differential diagnostic problems in adolescence, the concept of transient 'adjustment reaction of adolescence', requires attention. 'Adjustment reactions' related closely in time to identifiable stressors, need to be differentiated from healthy adolescent responses even when associated with features of maturational stress. It becomes particularly difficult in adolescence, to distinguish between adjustment disorders and conditions that are not attributable to a mental disorder, coded according to DSM-III-R (American Psychiatric Association, APA) as a v-code. On the other hand the diagnosis of adjustment disorder and its indiscriminate use has been criticised as carrying the risk of concealing more serious disorders of affect, cognition and behaviour (Parry-Jones, 1985).

Contrary to the idea that patterns of psychiatric disorder in adolescence are too changeable and unstable to be diagnosed in the usual way (Edwards & Dimitri, 1959), it as been found that psychiatric disorders occurring in adolescence are not fundamentally different in kind from those occurring at other age periods, although it is important to understand the particular features of disorders associated with developmental changes in adolescence (Graham & Rutter 1985).

The changes in adolescence in relation to affective disorders, are regarded as the most dramatic of all (Graham & Rutter 1985). There is a major increase in the frequency of depressive conditions of all types (Rutter, Graham, Chadwick & Yule, 1976) and an even greater increase in the frequency of attempted suicide and completed suicide (Graham & Rutter, 1985). Attempted suicide has been shown to peak at 15-19 years (Hawton & Goldacre, 1982). Mania becomes more frequent in mid-teens (Loranger & Levine, 1978; Hassanyeh & Davison, 1980). The sex ratio of affective disorders changes during adolescence from a male preponderance before puberty to a female preponderance in adult life (Pearce, 1978). A similar shift in the sex ratio for attempted suicide has been noted (Garfinkel, Froese & Hood, 1982).

A further diagnostic problem is the concern about introducing the diagnosis of personality disorder, while the personality is still developing. Only when personality traits are inflexible, maladaptive and cause either significant functional impairment or subjective distress, do they constitute a class of personality disorder (Kaplan & Sadock, 1991). However, undue caution in diagnosis of personality disorders may delay the construction of realistic, long-term treatment plans (Rutter & Hersov, 1985).

The psychiatric conditions showing a marked rise in frequency in adolescence are anorexia nervosa, substance abuse and schizophrenia (Graham & Rutter, 1985).

Graham & Rutter (1985) state, based on the Isle of Wight and Blackburn studies, that two

fifths of adolescents with psychiatric conditions showed emotional disorders of some kind. Most of these were anxiety states, depression or some kind of affective disorder. Much less common, and affecting only a few individuals were obsessive-compulsive conditions, hysteria, phobias and tics. Conduct disorders were also diagnosed in about two fifths of the psychiatric group and in about half of these there was a widespread disorder of socialisation. A substantial minority of adolescents (about one fifth) showed a disorder involving a mixture of anti-social behaviour and emotional disturbance. Psychoses were rare.

As expected, hospital statistics, rather than community studies, indicate a larger proportion of adolescents with psychoses. Warren's (1965a,b) findings from a psychiatric hospital in-patient unit showed that only 15% of younger adolescents (below 14 years and 6 months) and 25% of older adolescents were psychotic. In an out-patient psychiatric clinic setting, Rosen, Bahn, Shellow & Bower (1965), found 60% to be showing personality disorder, transient situational disorders, psychophysiologic states or psychoneuroses. Weiner & del Gaudio (1976) in a study of a county cumulative case register, found 8,5% of adolescents attending were suffering from schizophrenia.

In the Thompson et al (1986) study, diagnosis of psychopathology by age groups was as follows: early adolescents (age 10-14 years) had a large percentage of preadult disorders (childhood disorders) and late adolescents (age 18-21 years) had a large percentage of schizophrenia and other psychoses. A decrease in the percentage of admissions of adolescents with schizophrenia and other psychoses was noted in the 10 to 14 and 15 to 17 age group, indicating that the psychotic adolescent is not becoming overrepresented in US mental health facilities as they had hypothesised.

Cross-cultural studies and issues emerging are particularly important in the presentation and diagnosis of psychiatric disorders and have particular relevance for comparisons with South

African studies. Cultural and social contributions to psychiatric disorders have been emphasised (Kleinman, 1987; Nikapota, 1991). Moreover, cultural or political factors influence both the epidemiology, diagnosis and treatment of specific syndromes or distinct behavioural symptoms (Minde, 1992).

Cultural, social and political issues have to varying degrees, been addressed by the field of social psychiatry, which is part of the broader field of medical sociology. Social psychiatry relates to epidemiology in that it deals with the distribution of disorders (Kaplan & Sadock, 1991) and therefore has particular relevance to this study.

Indications from World Health Organisation case studies done in a number of countries (including, Egypt, Nigeria, India, Indonesia, Thailand and Sri Lanka), illustrate that child psychiatric symptomatology does not differ to a significant extent across cultures (Nikapota 1991). Findings from these case studies demonstrate that culture-specific disorders are very rare among children. However, there may be cross- cultural differences in symptoms or behaviour which initiate help-seeking behaviour.

A recent South African study does not support this finding entirely, in that relatively discrete culture-specific syndromes for children and adolescents were found (Robertson & Kottler, 1993). However, this finding could have been influenced by 'help-seeking behaviour' in that the persons from whom help was sought were traditional healers. Nevertheless, bedwetting, fits, headache, blindness at school and inability to read were not given specific Xhosa names (Robertson & Kottler, 1993).

Anthropological questions of differences between psychiatric disorders across cultures, rather than psychiatric questions of similarity, clarify the central issues raised in the research (Kleinman, 1987). Psychiatrists 'discovery' of cross-cultural similarities across cultures is described as unsuprising given the application of standardised diagnostic techniques (Kleinman, 1987).

Discrepancies in presenting symptomatology across cultures has been criticised for the bias of western based assessment procedures used (Minde, 1992). Kleinman (1987) argues in favour of a medical anthropological model in which biological and cultural factors dialectically interact.

Research involving cross-cultural studies differ concerning incidence or prevalence rates for various reasons, mainly because of differences in the presentation or manifestation of psychiatric conditions. It has been found that non- psychotic, non-drug and non-organic psychiatric disorders manifest in great variability in psychiatric morbidity from one population to another (Nichter, 1981). As a result, disorders such as depressions, conversion reactions, somatoform disorders, anxiety states, dissociative disorders and obsessive-compulsive disorder have been described as 'culture-bound' (Cox, 1986). However, these 'culture-bound' syndromes also involve signs and symptoms observed by psychiatrists in all countries. Thus it appears that symptom and behavioural complexes are not unique to certain cultures, but are overdetermined or conditioned in certain cultures at certain times (Westermeyer, 1989).

German (1987), drawing conclusions from studies in Africa, found that the extent and nature of mental ill health does not appear to suggest that psychiatric disorders are culture-bound. However, the presentation of illnesses may differ, for example, psychological distress often presented as somatic disturbance. However, it is urgent that methods of treatment consider the realities of local demographics, socioeconomic conditions and cultural values (German, 1987).

Uneven demographic distribution of these 'culture-bound' symptoms and syndromes in various populations and sub-groups makes it likely that social factors play a role in their genesis and perpetuation (Reiger, Myers, Kramer, 1984; Swartz, Blazer, George, 1986).

Cultural, social and political factors influence the epidemiology, diagnosis and treatment of psychiatric symptomatology. This study, in detailing demographic and treatment factors in the treatment of adolescents in the greater Peninsular region, and in contrasting findings with

studies from other regions and countries, will go some way towards illuminating these factors.

2.4 Treatment Issues in Adolescence

A central question to be addressed in the provision of mental health services is the adequacy of the mental health system. General issues concerning mental health provision for adolescents, principles underlying treatment options and types of treatment modalities will be considered.

Of critical concern are the questions of whether most adolescents in need of care are the ones who receive it and whether treatment of the required type and intensity is provided. Although national studies of this type are necessary and useful in addressing this question, information of this type is more feasible to collect and use at a local level (Burns, 1991).

While there is recognition that adolescents are a group with their own special attributes and needs with regard to health care (Thompson et al, 1986) and while there are increasing estimates of the need for treatment among adolescents (Costello, 1989), the literature concerning adolescent treatment, generally does not address the overall care delivery system (Thompson et al, 1986).

The few studies that do, however, address the overall mental health delivery service to adolescents, are based on statistics from the United States of America (Burns, 1991; Thompson, Bass & Witkin, 1982; Thompson et al, 1986) and therefore may not be applicable if transferred directly into the South African context.

Important considerations in the organisation of adolescent health services, arising from the principle of treating adolescents in the less restrictive settings, include that of the appropriate levels of care and their impact on varying intensities of treatment and costs of treatment (Burns, 1991; England & Cole, 1992; Friedman & Street, 1985; Knitzer, 1982).

Levels of mental health care for adolescents involve the issue of the desirability of inpatient versus out-patient care. The primary aim of inpatient treatment is to re-unite the child and his/her family and the goal is to return the child to normal life in the school and community (Palmer, Happer & Rivinus, 1983). In most cases, hospital admission is viewed as one phase in the overall treatment plan which will often have included out-patient treatment before admission and will usually include further work with the adolescent, family and school after discharge, either in a day unit or as out-patients (Hersov & Bentovim, 1985).

Burns (1991) questioned whether or not less restrictive care had been provided before more restrictive care, by examining whether outpatient treatment was received before inpatient admission. It was found that the users of inpatient (66%) or partial hospitalisation services (63%) were much more likely to have received prior care than the users of outpatient services (32%), indicating a greater duration of psychiatric conditions and perhaps a greater severity of problems among youth in more restrictive treatment settings.

However, one third of adolescents were admitted to inpatient services without a recent history of outpatient treatment. This finding may point to an important failing in the provision of community based services or to a large number of admissions for conditions with rapid onset (Burns, 1991). It has been found that variation in diagnosis by the level of care is not significant (mostly adjustment and behaviour disorders are observed across all levels of care) except that affective disorders dominate inpatient settings (Burns, 1991). Indications are, therefore, that the more 'intrusive' treatment programmes are not dealing with the more 'severe' disorders.

Inpatient hospital treatment is one option in the treatment of adolescents. Increasingly, the trend has been to question the efficacy of inpatient treatment units (Linnihan, 1977). Partial day treatment as an effective community alternative to hospitalisation, has been promoted (Linnihan, 1977). The advantages of this modality include strengthening the adolescents' ties

with family and community support systems and prevention of institutionalisation.

In the literature, the placement of emotionally disturbed children in residential treatment programmes, regarded as the most intrusive of treatment modalities, has come into question for a number of reasons. Knitzer (1982) estimated that over 40% of emotionally disturbed children within a hospital programme do not need to be there. The placement of children in particular treatment programmes may be more influenced by 'system' factors (for example, availability of space) than by child characteristics (Costello, 1989; Friedman & Street, 1985; Ysseldyke, Algozzine, Rostollen & Shinn, 1981).

Hundert, Cassie & Johnston (1988) found that children in more intrusive programmes were not characterised by more severe emotional problems than children in less intrusive treatment programmes and concluded that factors other than child needs play a role in placement. Because teachers and parents initiate referrals for treatment, these adults' perceptions of the child's problems may be a factor in determining which children are referred. Studies in support of this conclusion include that of Offord, Boyle & Racine (1989) who found that identification of childhood disorder is influenced by the perception of informants and the contexts in which assessments are done.

In addition, Griest, Forehand, Wells & McMahon (1980) found that the largest factor differentiating a group of children referred for help and a control group, was the mother's perception that her child was troublesome and needed professional help. This perception seemed more related to the state of the mother's own emotional state than to the child's actual behaviour.

Factors influencing teacher identification of children requiring treatment have been less well investigated. Hundert et al (1988) found that children who are less productive in class or who have low academic achievement may be more likely to be identified as having mental health problems. This may, as with parent referrals, reflect an interaction between some deviance the

child shows and the tolerance of the teacher for that deviance.

Lewis, Lewis, Shanok, Klatsin & Osborne (1980) in a follow- up study of 51 children who had been in a residential treatment programme for an average of 25,5 months, found that the majority had a poor outcome in terms of subsequent pathology and social adaptation.

Critique of the placement of children and adolescents in 'intrusive' programmes, therefore question the lack of clarity in criteria for placement applied by institutions (Burns, 1991; Costello, 1989; Friedman & Street, 1985; Ysseldyke et al, 1981), the subjectivity of referral sources (Hundert et al, 1988; Griest et al, 1980) and the lack of sustained effects of treatment on follow-up (Lewis et al, 1980).

Recommendations for the organisation of adolescent health services, therefore, emphasise the importance of multiagency systems of care for youth who are seriously emotionally disturbed (Burns, 1991; England & Cole, 1992; Jack, Lear & Klerman, 1988). This involves a decentralisation of services (Jack et al, 1988) and community care with an emphasis on prevention (Bearinger & McArney, 1988; Phillips, 1986).

Ecosystemic approaches consider in-patient hospital units as increasingly linked to community and other out-patient services in functional working relationships. Thus, intervention includes a focus on the transition and reintegration of the adolescent from the institution to the school, as an example of linking with the community (Termini, 1991).

Community links can be observed in referral patterns. Moreover, the source of referral provides an indication of how far an adolescent has moved into the system before receiving services. In the Burns (1991) study the major source of referral for outpatient and partial hospitalisation is 'other' (including schools, courts, juvenile justice and welfare). Thus, for almost half of adolescents treated in these settings, problems were observed by a non-medical agency before referral

was made. A substantial proportion (42%) were referred to outpatient services by self, family or friend. The high proportion of partial hospitalisation patients referred by an inpatient unit indicates that partial hospitalisation is being used, at least in part, as a transitional service from inpatient care back to the community. This seems to indicate efficient use of the differing levels of treatment.

Thompson et al (1986) noted that a limitation to the understanding of the care delivery system for adolescents was that there were no real measures of the movement of patients through the service delivery system.

Concerning choice of treatment, it has been found that in mental health facilites in the United States, there has been an increase in group and family interventions (Thompson et al 1986). The hospital in-patient unit has been conceptualised as providing a specialised treatment programme within a range of services (Hersov & Bentovim, 1985).

The need for the development of a comprehensive and co-ordinated network of community based treatment resources to augment in-patient treatment and so to meet the unique needs of adolescents, has been emphasised from a number of differing sources and for differing reasons (Burns, 1991; Jack et al, 1988; Bearinger & McArney, 1988; Hersov & Bentovim, 1985; Linnihan, 1977; Palmer et al, 1983; Termini, 1991).

2.5 South Africa and Adolescent Mental Health Care

Mental health care of adolescents in South Africa is affected by the changing mental health policy in this transitional period. Given the changing dynamics of power in the country it is even more pressing that present services be evaluated and implications drawn for future policy and intervention. Thus the changing ideas and policies in mental health care will be considered, as well as South African studies relating to mental health care and views on the mental health

status of the society in general.

In the South African reality of increasing pressure for health system restructuring (Klopper, 1991), adolescent services are not specifically addressed but policy decisions nevertheless impact.

The present health service financing policy was disclosed in the National Policy for Health Act, the 1991/1992 budget and health service restructuring plans (13 May 1991) (McIntyre, 1991).

The Minister of National Health and Welfare Services announced in the parliamentary health budget on the 13 May, 1991 that health care would be restructured by dividing it into three tiers (illustrated by a triangle): at the apex of the triangle (as a first tier) the Department of National Health and Population Development would be responsible for tertiary care; secondary care would be allocated to provincial administrators and the third tier to local authorities responsible for primary health services.

Criticisms of this policy include the lack of clarity regarding financial responsibility and potential conflicts with regard to referrals considering that the different levels of health care will be provided by different authorities with different financial means (Klopper, 1991). Moreover, Klopper (1991) argues that the emphasis should be on reducing resource inequalities on a regional or geographical basis with a view to individuals having access to all levels of care irrespective of their locality and therefore be more in line with international resource allocation formulae.

In the restructuring of health services, the problem of transferring funds from other services to Primary health care is highlighted because of the decrease in the health budget in real terms (Slabber, 1992). In ensuring the equitable allocation of health funds Slabber (1992) advocates reliance on two major determinants, namely, the size of the population to be served and the health status of the people.

More recent contributions to the health policy debate, attempting to provide guidelines on the development of health policy, have included ANC policy guidelines (as adopted at a National Conference, May 1992), Slabber's (Director-General of the Department of National Health and Population Development) 'A new South Africa - a new health care strategy' and MASA's 'Guidelines for the development of health policy'.

The ANC health policy guidelines on health (Health Policy Forum, 1992) criticise an emphasis on individual care as this conceals the socio-economic causes of ill health and emphasise, among other principles, that appropriate services to adolescents and young adults be provided.

Community participation in health service institutions has been accepted worldwide as a concept essential for securing social justice (Shisana & Versveld, 1993). Appropriate models of such participation include the following: assessment of the community organisational structures; assessment of health needs using science-based data; the setting of priorities and development, implementation, evaluation and monitoring of intervention programmes (Shisana & Versveld, 1993).

Prior to these more recent policy developments, studies such as the Gillis Report (1990) highlighted the need for mental health services, particularly child and adolescent psychiatric services for blacks. The existing service for blacks was stated as functioning at an inadequate level and problems intensified due to the uneconomic and duplicative tricameral arrangements. In addition the report noted the importance of community service as it gives essential support to all the other facilities and is, in fact the cornerstone of a coordinated system of psychiatric care.

Attention has been given to the need for mental health care for adolescents, as part of the inadequacy of the mental health system in general. The health care system in the South African context faces complex challenges. South Africa is classed as a middle-income developing country and has a population growth rate of 2,6% per annum (Slabber, 1991). Moreover, approximately

38% of the South African population are between the ages of 0 and 14 years (Slabber, 1991). Other figures report that the 7,75 million adolescents in South Africa constitute 22% of the total population (Mostert & Van Tonder, 1987).

National population figures, although known to be inaccurate (Flisher et al, 1992), indicate the highest percentage of both boys and girls in the coloured population 10-14 year age group, for the period 1986 to 1990, followed by the percentage of boys and girls in the 15-19 age group. In all age groups, the overall percentage of females to males was 51,05% to 48,95% respectively (Kustner, 1990).

Estimates based on population figures for the adolescent coloured population in the Western Cape (Central Statistics Service, 1991; Kustner, 1990) and numbers of adolescents admitted to the Sonstraal Adolescent unit, indicate that 0,02% of the coloured adolescents population in the Western Cape, are being treated in institutions. Following international studies with figures of the prevalence of psychiatric disorder at approximately 20%, indications are that a large number of adolescents in South Africa require psychological treatment.

The trends in mental health care as well as studies indicating a high level of disturbance among adolescence, receive further impetus in the South African situation where the urgency, magnitude and complexity of the problems facing youth need to be understood so that they can be addressed. Bundy (1992) states that social and structural pressures threaten to deepen and aggravate the alienation and marginalisation of huge numbers of young people in the years ahead. These pressures include accelerated population growth, unemployment, urbanisation and violence. These societal pressures increase the stress levels in society and impact on the mental health of individuals and families.

South African studies comparing the extent of psychiatric disorder in the different population groups are highly problematic due to language differences and differences in attitudes to facili-

ties for hospitalisation (Swartz, 1987). However problematic, findings referring to the coloured population provide a reference point for findings of the present study. Mental disorder comprised the highest percentage of chronic illness among coloureds. A relatively high frequency of psychosis was found among coloureds. Chronic incapacitating psychosis comprised 3.0, 4.6 and 1.2 percent of chronic illness for blacks, coloureds and whites respectively (Dick, Spencer, Watermeyer, Bourne, Wolff & Moyle, 1978).

A study analysing the Child Mental Health Care Centre at Midlands Hospital in Pietermaritzburg which is the only in-patient facility for psychiatrically disturbed children and adolescents in Natal (Moodley & Pillay, 1993), has direct relevance for this study. Among the relevant demographic findings, are the following: higher rates of mental health problems in boys than girls who were referred to the unit; 82% of patients were referred for behavioural problems such as aggressiveness and other anti-social behaviours; almost one- third (31%) of patients were diagnosed as showing disruptive behavioral disorders; parent-child problems were prevalent; mental retardation was diagnosed in 35% of patients referred to the unit; the majority of patients (51%) were discharged within 30 days; a large proportion (38%) of referrals came from social workers and although 40% of children were referred from the immediate area, referrals (30%) also came from more distant areas (up to 400km away).

A further indication of psychological distress, is the incidence of suicide, which is on the increase internationally (Holinger, 1978) and locally (Schlebusch, 1985). There is a wide variation in the incidence of suicide between population groups. The incidence rate is highest among whites: 10% of all deaths in the 15-19-year age group during 1984-1986 were caused by suicide (Flisher et al, 1992).

In a study among high school students in the Western Cape, focusing on suicidal behaviour as an aspect of risk taking behaviour, it was found that 19% had seriously thought about harming

themselves in a way that might result in their death; 12% had told someone that they intended to put an end to their life; and 7,8% had actually tried to put an end to their life (Flisher et al, 1993). Although the study did not attempt to determine the extent to which those who attempted to take their life required medical attention, it provides some indication of the distress experienced by adolescents and the need for services.

Certain demographic details have been found to be associated with increased risk for suicide (Flisher et al, 1993). Different trends were noted according to gender, standard and language spoken at home. More females than males had made a suicide attempt for each standard (high school) and language group. For males, their incidence of suicide attempts decreased with standard while for females there was a peak at standard seven (14 to 15-year old's). The authors described the increasing incidence of suicidal thoughts by standard for both genders as probably a function of increasing academic and social developmental demands. Moreover, they conclude that suicidal thoughts can be regarded as a complex of symptoms that is associated with subsequent suicidal events and psychological dysfunction.

Donald & Dawes (in press) describe the family as one of the less obvious structural forms of adversity. Moreover, they state that one consequence of apartheid structural violence and poverty has been its influence on the reduction of the ability of families to serve as an adequate support structure for the nurturance and development of children. Street children, it is argued represent failures of this type.

Unemployment has been shown to have a strong negative effect on marital and family relationships (Venter & Zeelie, 1992). Unemployment negatively influences behaviour control in families in that rules are increasingly changed and inconsistently applied (Madge, 1983; Berry & Chiapelli, 1985).

Demographic factors relating to violence among Cape Peninsula adolescents has shown that

boys are at greatest risk for involvement in a variety of violent situations, both as victim and perpetrator (Flisher et al, b, 1993). Younger adolescents seem especially vulnerable to incidents of victimisation and Xhosa-speaking adolescents appeared less violent than their English- and Afrikaans-speaking counterparts (Flisher et al, b, 1993).

Further indications of the levels of inter-personal violence in the South African society, include a study on the mortality of adolescents from external causes (Flisher, Joubert & Yach, 1992). Findings from this study indicate that the mortality rate for assault among coloureds in the 15-19-year age group is 62,2/100 000, corresponding to a risk ratio of 12,0 in relation to whites. The proportion of boys who die from assault and from other 'external causes' is greater than for girls, while the proportion of girls who die from 'symptoms, signs and ill-defined conditions' was greater than for boys. Marks & Andersson (1990), report an incidence of 2,51 violent deaths per 1000 persons for Cape Town for 1986.

Mokwena (1992) argues that the destabilisation of family life and the collapse of the education system have contributed to the formation of street gangs. These gangs are an embodiment of a viciously violent street culture. Flisher et al (1993) commented that higher levels of violent behaviour could be expected among adolescents from socially marginalised groups, in which families and communities have suffered dislocation (for example, forced location). Studies of gang formation in coloured townships around Cape Town have ascribed their pervasiveness to the breakdown of community structures and a deteriorating economy. Gang notions of manhood, their images of women, their language and their survival strategies have been influential in shaping the values among this communities youth (Scharf, 1990).

Dawes & Donald (in press) refer to political violence as a structurally generated form of adversity. This is compounded by criminal and domestic violence which are also rife in poor areas (Dawes, 1990). A link has been demonstrated between physical aggression in the family and

aggression and other crime outside the family context (Harbin & Madden, 1983).

Another common feature of South African society is sexual violence, which commonly takes place within the family context (Dawes & Donald, in press). Teenage pregnancies have been argued as being part of the index of marginalisation and social breakdown in black communities (Mokwena, 1992).

As Dawes (in press) points out, post-traumatic stress disorder has become a reference point for the interpretation of reactions to political violence. There is however a range of possible reactions to traumatic events and the current tendency to focus on post-traumatic stress disorder often leads to the assumption that if people do not have 'it', then they are not that seriously affected (Richman, 1992).

With the issue of the alienated youth placed in the context of social and family disintegration, the role of schooling must be considered. Schooling, while rapidly disintegrating, has hastened the disintegration of the social fabric. Alienated youth are for the most part, unemployed, politicised, have grown up in a culture of violence and in educational terms, have a sense of failure. They have dropped out of the schooling system, rejected it or been rejected by it, or failed to meet its requirements, or, having survived 12 years of it, emerged without anything to show to a certificate-obsessed society and business sector (Hartshorne, 1992).

Donald (in press) argues that socio-economic and educational disparities generated by the apartheid policy, creating a cycle of disadvantage, has served to reproduce disadvantage in children with special educational needs who in fact form a significant proportion of children in the South African context.

The educational crisis impacts on adolescents by creating a context which facilitates disturbance and amplifies maturational and transitional difficulties.

The magnitude and complexity of social and structural pressures facing South African youth, is undisputed (Bundy, 1992). The inadequacies and virtual collapse of the educational system (Donald, in press; Hartshorne, 1992; Mokwena, 1992) have contributed to the disintegration of society (Hartshorne, 1992). Societal pressures impact on and interact with the individual in ways which lead to an increase of inter-personal violence (Dawes, 1990; Flisher et al, 1993; Venter & Zeelie, 1992), sexual violence (Dawes & Donald, in press; Mokwena, 1992) and community violence (Mokwena, 1992; Flisher et al, 1993; Harbin & Madden, 1983). A study of Cape Peninsula students has shown that the adolescent response is increasingly toward suicidal ideation and attempt (Flisher et al, a, 1993), while in Natal high percentages of young people presented for psychiatric help with behavioural problems such as aggressiveness and anti-social behaviours (Moodley & Pillay, 1993). Thus, the political, economic, social and educational pressures appear to be creating a context which facilitates disturbance and amplifies maturational and transitional difficulties among adolescents.

The need for an analysis of present mental health services in the light of the present crisis facing South African youth is therefore undisputed. Restructuring of services to include a more community focused orientation is urgently needed and community participation in this process is required (Shisana & Versveld, 1993).

Chapter 3

Design and Methodology

3.1 Definition of Terms

This study is most accurately described as a demographic study. Demography is defined as the study of human groups with reference to their size, composition and distribution (Hammond & Gear, 1986). In such demographic studies, size refers to the numbers involved in the study, while composition may include categories such as age, sex, educational level, income group, language group and religious affiliation.

In this study, the 'composition' of human groups including categories such as educational level, income group, language group and religious affiliation will not be described as they are not readily accessible in the records of data. Inclusion of these categories on the records may well be recommended as an outcome of the study.

Distribution, in the context of a demographic study, may refer to proportions of people living in urban or rural areas, and is therefore not directly relevant to the present study. Referral agents and agents referred to on discharge will however include urban and rural resources.

Selected treatment characteristics, which are more clinical features rather than demographic characteristics, have been included in the study as they impact on policy issues.

Thus, the study will include a description of the size or numbers of patients admitted to the

unit from 1986 to 1990; the composition of the group, including, age, sex, standard, area and diagnosis of psychopathology. Treatment characteristics such as length of stay and referral agent on admission and discharge, will be described.

3.2 Study Design

3.2.1 Study Population

The population consists of all adolescents admitted to the Lentegeur adolescent unit from January 1986 to December 1990. This numbers 438 patients.

The record of all adolescents admitted to the unit was compiled from the Sonstraal admission register. Patient details such as names, dates of admission and discharge and in-patient file numbers were entered into a data set in the Epiinfo computer programme.

The patients are drawn from the Western Cape area, primarily the area assigned to the hospital, but as it is the only in-patient unit in the Western Cape, patients are admitted from rural areas and areas falling within the domain of other hospitals.

The majority of patients are Afrikaans speaking at home. Language is however not recorded in the discharge data.

Subjects were excluded if there was no 'Clinical Summary on Discharge' form completed and placed in the patient file.

3.2.2 Study Sample

The sample for the present study consists of adolescents admitted to the Sonstraal unit between 1986 and 1990, whose summary of clinical details as recorded on the 'Clinical Summary on Discharge' form, was filed in the summary file kept at the Sonstraal Adolescent unit.

Therefore, it should be noted that those patients whose 'Clinical Summary on Discharge' form

exists only in their in-patient file, were excluded from the study.

3.2.3 Data Collection and Input

The Sonstraal Adolescent unit is required in terms of hospital policy to complete a form entitled 'Clinical Summary on Discharge', on the discharge of each in-patient. On this form, the professional who had been assigned to the adolescent as his/her case manager or therapist, records demographic, treatment and follow-up information. This form is then placed in the file of the particular adolescent. A copy of this 'Clinical Summary on Discharge' is kept in the Sonstraal unit for easy reference.

The pertinent demographic and treatment information was taken from the 'Clinical Summary on Discharge' form and entered in the Epiinfo computer programme, which consists of a series of microcomputer programmes (Dean, Dean, Burton & Dicker, 1990).

Prior to this study, the consultant psychiatrist working in the unit had entered the names and file numbers of all the adolescents admitted to the unit during the period 1986 to 1990. An initial data base had therefore been created.

For the purpose of the present study, the data base was altered by the creation of an appropriate 'questionnaire'. The EPED programme of the series of EpiInfo computer programmes, was used to create the 'questionnaire', while the ENTER programme produces a data file automatically from the 'questionnaire' and manages the entry of data from the 'questionnaire' into a disc file.

In order to control for unforeseen variables and to note the historical development of the Sonstraal unit itself, two of the previous psychiatrist consultants were interviewed.

3.2.4 Data Processing

The data input phase was followed by processing of the data which involved grouping the data into fewer categories so that meaningful analyses could be completed and defining new variables where appropriate.

Firstly, however, frequencies of all the variables were completed to check for errors and to provide a starting point for further categorisation of data. The variables included sex, age, suburb/town (which had been inputted in line 3 of the address), referral agent, referral agent on discharge, reason for admission: the main presenting problem and accompanying cause/s for concern, axis I diagnosis, axis II diagnoses and in-patient therapist.

The definition of variables included that of length of stay in the unit and the year during which the adolescent was admitted to the unit. The 'length of stay' variable was created by subtracting the date of discharge from date of admission and the 'year of admission' variable was extracted from the date of admission.

Once the frequencies of variables were completed and errors corrected, salient characteristics of the data were noted and will be reported in the results where appropriate. Further categorisation of data which involved consolidating the data into meaningful groups, was undertaken so that relationships between variables could be described and analysed. The relationship between variables was determined by the 'TABLES' function involving cross tabulations of variables.

The following variables were grouped in the ways described below. The groupings or categorisation of data was discussed with the psychiatrist who had been working in the unit at the time, a clinical psychologist in the Sonstraal unit and educational psychologist (supervisor of the thesis) as a control for researcher bias. Moreover, the details of results prior to categorisation, have been reflected in the appendix so that readers can follow-up on specific issues which may

be clouded by the categorisation of data.

The 'age' category was reduced by grouping the ages into three categories, following Thompson et al (1986), early adolescence (10-14 years), middle adolescence (15-17 years) and late adolescence (18-21 years).

The area category, taken from city, town and non-urban area data inputted from the addresses of in-patients, was categorised into magisterial districts. Magisterial districts were taken from Standard Code List of Areas and further categorised into statistical regions (Central Statistical Service, 1991).

The first line of the address was used to record those who were referred from an institution. Referral agents on admission (seventeen in total) and agents to whom patients would be referred to on discharge (eighteen in total), were categorised into medical, educational, community, government/social and family groupings.

Details of the composition of the categories of referral agents on admission and discharge are as follows. The medical grouping includes all hospitals, such as Groote Schuur, Tygerberg, Red Cross, Lentegeur (that is, internal referrals) and Community Clinics. The educational grouping includes staff attached to schools, for example, teachers, headmasters, school psychologists, school nurses, sisters and social workers. The community grouping includes community agencies, such as religious and family organisations and other professionals, for example doctors and psychologists in the community. The 'government' grouping includes agencies such as Coloured Affairs, Child Welfare, Schools of Industry and Places of Safety. Lastly, the family grouping includes all referrals from or to family members as well as self referrals. For referral agents on discharge, the 'other' category included referrals to community and family agencies, adolescents who were not referred to any agency on discharge and adolescents who discharged themselves.

Reasons for admission were extracted from a paragraph on the 'Clinical Summary on Discharge' form. The first reason for admission represents the main symptom or cause for concern as presented to the therapist in charge of the case. The second reason for admission is an accompanying reason regarded as important by the referral agent, therapist (case manager) or myself in extracting the main symptoms from the clinical records.

The reasons for admission were categorised further by grouping the presenting problems in the following manner. The 'anxiety' grouping included presenting symptoms of anxiety, general anxiety, phobias and social anxiety; the grouping of 'behaviour problems' included presenting problems of aggression, truanting, stealing, running away and substance abuse; the grouping labelled 'psychosis' included presenting symptoms such as paranoia, hallucinations and bizarre behaviour (sometimes detailed as disorientation, wandering from home or psychomotor retardation); 'school refusal' was most often associated with emotional symptoms and not coping at school; 'sexual problems' included gender identity problems; 'suicide' included suicidal ideation, one or more suicide attempts and severe self-mutilation; 'sexual abuse' included rape and sexual abuse within the family and broader community and 'mood' included symptoms of depression and symptoms of mania, for example, restlessness; the 'physical' grouping includes non-compliance with medication, assessment for epilepsy and other physical complaints; the 'family' grouping includes general relationship problems within the family, death of a family member, divorce and fostering problems; the grouping labelled 'other' includes enuresis and hysteria.

The range of axis I diagnoses were coded according to DSM-III-R and although details will be reported, the diagnoses have been grouped in the following ways to facilitate analysis. Adjustment disorders include the DSM-III-R diagnoses of adjustment disorder with anxiety, with depression, with conduct and with conduct and emotions. The grouping included in the category labelled 'anxiety', consists of diagnoses of separation anxiety, generalised anxiety and

social anxiety. The grouping labelled 'mood' disorders included DSM-III-R diagnoses of dysthymia, bipolar depression, hypomania, major depression and uncomplicated bereavement. The group labelled 'conduct' includes conduct disorder of the group and solitary type and substance abuse. The grouping described as 'psychosis' includes brief reactive psychosis, psychotic depression and schizophrenia. The group described as 'family' includes the DSM-III-R v-code diagnoses of parent-child relationships and family circumstances. Disorders characterising the grouping 'adolescent disorders' include gender identity disorder, identity disorder, oppositional disorder and DSM-III-R v-code adolescent anti-social disorder. Post-traumatic stress disorder although categorised as an Anxiety disorder in DSM-III-R, is maintained as a separate category for the purpose of this study. 'Disorders with physiological manifestation' include those diagnosed (according to DSM-III-R) as somatoform disorders, eating disorders and enuresis.

Axis II personality diagnoses are coded as 'personality traits' rather than personality disorders. Where more than one trait is mentioned as describing the present functioning of the adolescent, the second trait is coded separately.

The 'therapist' grouping included psychologists, nurses, the social worker and occupational therapist. The doctors and psychiatrists were joined with the psychologist group as they saw a small number of cases.

This categorisation of data was undertaken in order to determine the relationship between two variables and to test whether the various relationships were statistically significant. Cross-tabulation of the variables was therefore undertaken using the 'TABLES' function the ANALYSIS programme.

3.3 Data Analysis and Interpretation

The inductive nature of this study is demonstrated in the approach of cross-tabulating the demographic and treatment variables and allowing the patterns and trends to emerge. Description of the patterns and trends of data was facilitated by the Epi Info programme which selects the appropriate procedures and statistics from the ANALYSIS and STATCALC programmes.

The ANALYSIS programme is a database and statistical programme for manipulating and analysing data records. The programme produces lists, frequencies and cross tabulations. Appropriate epidemiologic statistics, such as confidence limits, the Fisher exact test and chi-square tests accompany the tables and will be noted in the results. Stratified analyses with the Mantel-Haenszel technique, one-way ANOVA and Kruskal-Wallis tests, linear regression and analysis of matched case-control studies are also offered and may or may not be selected for the study depending on appropriacy.

The generation of new data sets for simple testing and a programming language are included in ANALYSIS. Thus new data sets could be generated from the existing variables and included in the analysis. Examples of this include the definition of the length of stay and year of admission variables.

The selection of procedures included the use of the frequency and tables function and statistics were selected by the computer programme. Moreover, for interpretation of results, finer categorisation of data and selection of statistical procedures, a statistician was consulted.

Data analysis and interpretation involved a description of the salient trends as well as commenting specifically on statistically significant trends as they emerged in the lists of frequencies and cross-tabulations of data. Analysis of the trends and comparisons with literature findings was undertaken.

The criteria for the analysis of data considered the influence of the context in which data was provided, the influence of myself as psychological researcher, comparisons with literature findings, practice factors in the Sonstraal unit and South African context issues.

The purpose of the analysis of the emerging patterns or trends and comparison against literature findings, was to facilitate the generation of hypotheses which could be tested in future studies and to detail the implications for the future of the adolescent unit in terms of policy issues, unit staffing and treatment options.

3.4 Limitations, Ethical and Legal Considerations

The implications of this retrospective study are that information recorded on the 'Clinical Summary on Discharge' form, was in place before the study and had to be used as recorded. This form constitutes the basis from which information was obtained for the study. The results may have been affected by the individual variations in the completion of these forms and some useful data, like socio-economic status was not completed on the form.

Although there were controls for researcher bias, as described previously, a certain amount of clinical judgement was required in the categorisation of the reasons for admission. The team case management approach of the Sonstraal unit limits, to some extent, the effect of the individual case manager's interpretation of a case being reflected in the Clinical Summary on Discharge' form. Thus a certain amount of subjectivity can be expected. The possibilities for subjective interpretation of this 'Clinical Summary on Discharge' form, does raise the issue as to whether or not this form should function as a data capture form in future studies.

Adolescent in-patients and their parents are informed as to the teaching status of the hospital and as such consent to research. Nevertheless, confidentiality and anonimity will be maintained in that broad trends and statistics will be referred to in the results, rather than individual cases.

Chapter 4

Results

4.1 Frequencies of Variables

4.1.1 Demographic Results

The results reported for demographic details include numbers of admissions, age, sex and geographical areas.

Numbers of Admissions

Frequencies were completed of the numbers of admissions over the years 1986 to 1990 for the total population (see table 4.1) of all patients who were admitted to the unit over the period of the study were compared to the sample (see table 4.2) of those admitted to the unit whose 'Clinical Summmary on Discharge' form was kept at the unit and inputted in the data base.

The total number of admissions from 1986 to 1990 was 442 and the number of the sample was 262 patients. There were no significant differences between the population and the sample during the period studied with respect to age, age categories and sex. Thus, the sample was more or less homogenous for these categories. An increase in admissions was noted from 8% in 1986 to 30% in 1989 after which there was a 9% drop in admissions in 1990.

Sex

The sex of the sample of patients admitted to the unit (1986-1990), was roughly equal with 52% of the sample female and 48% male (see table 4.3).

Age and Age Category

The age range of the adolescent in-patients was 12-22 years, with only three adolescents above 18 years treated in the unit (see table 4.4).

The age variable was further categorised into the younger (10-14 years), middle (15-17 years) and older (18-21 years) age range. The frequencies of the age category variable showed that 25% of adolescents who were admitted to the unit were 15 years old, 24% 14 years old and 22% 16 years old. The highest frequencies of patients admitted to the unit were within the 14 to 16 age range: together they constituted 71% of the admissions (see table 4.5). The younger adolescent group (age 10-14 years) comprised 38% of the sample, the middle adolescent group (15-17 years) 56% and the older adolescent group (18-22 years) 6% (see table 4.5) of the sample.

Area

With regard to the areas from which the patients were drawn, the majority (80%) came from the Peninsular statistical region and 9% from the Boland statistical region (see table 4.6). Thus, 11% of referrals come from more 'outlying' regions, ranging from Breede River to Namaqualand.

The breakdown of numbers of magisterial districts, which gives a more detailed analysis, shows that the the major areas from which referrals are drawn, are Wynberg with 66%, Goodwood 8% and Boland 4% (see table A.2). An analysis of the Mitchell's Plain area showed that 28% of all referrals came from Mitchell's Plain.

4.1.2 Treatment variables

The treatment factors to be reported include referral agencies on admission and on discharge, therapists responsible for case management, reasons for admission, axis I and II diagnoses and length of stay in the unit.

Referral Agencies

Of the referral agencies servicing the hospital (see table 4.7), the medical category (including all the hospitals in the area and internal referrals) accounted for 46% of referrals.Community, educational and government/social agencies referred a more or less equal number of cases (between 14-15% each, of all referrals). The 'family' grouping referred the least number of adolescents to the unit, accounting for 10% of referrals. (For a detailed list of frequencies of referral agents see table A.1).

Referrals from Institutions amounted to 14% of all referrals to Sonstraal,the majority (46%) coming from Children's Homes (see table A.3).

Referral Agencies on Discharge

The referral agencies on discharge (see table 4.8) reflect a differing pattern of referrals to those on admission. Agencies comprising the medical category, received 60% of patients on discharge. The category called 'other' (those not referred to any source or self discharged), comprised 16% of the total of agencies receiving patients on discharge, community agencies 3%, educational agencies 4% and government/social agencies 17%. (For a detailed list of frequencies of referral agents on discharge, see table A.4).

Therapists

The breakdown of therapists (see table 4.9) responsible for case management of the various in-patients revealed that psychologists managed the majority of cases (47%) seen at the unit over the period 1986-1990. Nurses managed 27% of cases, social workers 17%, occupational therapists 9%. In order to facilitate cross-tabulation and further analysis, the doctors (constituting 3% of the psychologist grouping) and psychiatrists (constituting 1% of the psychologist grouping) have been included in with the psychologist group and will therefore not be referred to separately. These frequencies are potentially misleading as they do not take into consideration the numbers of staff within the various disciplines or the amount of time the various disciplines have available for case management.

Reason for Admission

The stated reason for admission (see table 4.10) of in-patients to the unit, represents the main cause for concern of the referral source. The following trends were noted. The highest percentage of patients' (28%) reason for admission was behaviour problems. Suicide, including mainly suicide attempts but also suicidal ideation, constituted 21% of presenting problems and school refusal 10% (For detailed analyses see table A.5).

Changes in the trends of reasons for admission over the period studied (see table 4.11), showed significant differences ($\chi^2_{28} = 42{,}0$; $p = 0{,}044$). An increase in presentation of behavioural problems (6% in 1986 to 34% in 1990) and suicide (13% in 1986 to 28% in 1990) as reasons for admission were noted. A decrease was noted in school related reasons for admission (47% in 1986 to 8% in 1990) and reasons for admission described as 'psychoses' (20% in 1986 to 8% in 1990).

Accompanying Reasons for Admission

Accompanying or important reasons for admission were reported with the following frequencies (see table 4.12): 48% of accompanying reasons for admission were 'family' related and 13% described as 'behavioural' problems. (For a detailed list of frequencies of accompanying reasons for admission, see table A.7).

The changes over the period 1986 to 1990 (see table 4.13) showed significant differences ($\chi^2_{32} =$ 46,23; p = 0,049). Family related reasons for admission were markedly high in 1986 (60%) and in 1989 (60%). School related problems were at their highest in 1987 (14%), psychotic related problems were at their height in 1988 (13%) and sexual problems were at their height in 1989 (11%).

Axis I Diagnoses

Results of the breakdown of axis I diagnoses (see table 4.14) (according to DSM-III-R) for patients admitted to the unit were the following: 37% were diagnosed as showing adjustment disorder; 13% were diagnosed as v-code family problems; 12% were diagnosed mood disorder and 11% were diagnosed conduct disorder. (For a detailed list of frequencies for axis I diagnoses, see table A.6).

The changes in time during the period 1986 to 1990 showed that there were significant differences in the axis I diagnoses (see table 4.15) ($\chi^2_{32} = 79{,}01$; $p < 0{,}001$). Diagnoses of adjustment disorder were given in over 50% of cases during 1987 and then decreased to 3% in 1990. Diagnoses of post-traumatic stress disorder increased from 2% in 1987 to 16% in 1990. Diagnoses of family problems increased in the period studied from 2% in 1987 to 25% in 1990.

Axis II Traits

Of the sample of 264 adolescents admitted to the Sonstraal Unit, 18% (48 patients) were described as demonstrating personality traits consistent with axis II personality disorders (see table 4.16). Analysis of frequencies indicated that 33% (16 adolescents) were described as showing histrionic traits and 23% (11 adolescents) were described as showing passive-aggressive traits. One adolescent was described as exhibiting a personality disorder, namely a schizotypal personality disorder. In only eight cases was more than one axis II trait said to be descriptive of an adolescent in-patient (see table 4.17).

Length of Stay

Length of stay is one of the treatment factors. As the average length of stay was described as being 6 weeks, analyses of patients staying less than 6 weeks and longer than six weeks, was completed. Analyses for length of treatment for very brief periods, namely one week, as well as for very lengthy periods, namely, three months or longer, were also completed.

Of those who were discharged within 7 days (18 patients in total), 72% were males (see table 4.18); 28% were admitted for reasons relating to suicide and 22% for behavioural problems (see table 4.19); 33% were given an axis I diagnosis described as 'other' and 22% adjustment disorder (see table 4.20).

Of all the patients admitted to the unit, 45% were admitted for a period of less than 6 weeks (43 days). Of this group, 54% were males and 46% females (see table 4.21); 30% were admitted for reasons relating to behaviour problems and 21% to suicide (see table A.41) and 32% were described as having an axis I diagnosis as adjustment disorder (see table 4.22). An axis II diagnosis of mental retardation was given in 28% of cases and histrionic traits were noted in 28% of cases (see table 4.23).

For the majority of patients, 55%, the length of admission was longer than six weeks (42 days). Of these, 57% were females (see table 4.24), 27% were admitted for behavioural reasons and 22% were admitted for reasons relating to suicide (see table 4.25). Regarding axis I diagnoses, 40% were given an axis I diagnosis of adjustment disorder, 14% mood disorder and 14% family problems (see table 4.26). Of those who stayed longer than six weeks; axisII traits were noted in 31 patients (63% of all those reported to be displaying axis II traits), 36% displayed histrionic traits and 26% passive aggressive traits (see table 4.27).

Only 18 patients stayed in the unit for 3 months or longer (84 days). Of these 14 (78%) were females (see table 4.28), 17school related reasons while there was a decrease in the number (compared to the sample in general) of those preseenting with behaviour problems (see table 4.29). Regarding axis I diagnoses, 7 in-patients (39%) were diagnosed as 'adjustment disorder ' and 5 (28%) diagnosed as showing mood disorder (see table 4.30).

4.2 Tables Referred to in Frequencies of Variables

Table 4.1: Frequencies of Numbers admitted in each year for the Population

YEAR OF ADMISSION	Freq	Percent	Cum.
86	36	8.1%	8.1%
87	81	18.3%	26.5%
88	102	23.1%	49.5%
89	132	29.9%	79.4%
90	91	20.6%	100.0%
Total	442	100.0%	

Sum = 39057.00
Mean = 88.36
Standard deviation = 1.23

Table 4.2: Frequencies of Numbers admitted for each year for the Sample

YEAR OF ADMISSION	Freq	Percent	Cum.
86	15	5.7%	5.7%
87	49	18.7%	24.4%
88	54	20.6%	45.0%
89	83	31.7%	76.7%
90	61	23.3%	100.0%
Total	262	100.0%	

Sum = 23182.00
Mean = 88.48
Standard deviation = 1.20

Table 4.3: Frequencies of Sex

SEX	Freq	Percent	Cum.
f	137	51.9%	51.9%
m	127	48.1%	100.0%
Total	264	100.0%	

Table 4.4: Frequencies of Age

AGE	Freq	Percent	Cum.
12	7	2.7%	2.7%
13	31	11.8%	14.5%
14	62	23.7%	38.2%
15	66	25.2%	63.4%
16	57	21.8%	85.1%
17	23	8.8%	93.9%
18	13	5.0%	98.9%
19	2	0.8%	99.6%
22	1	0.4%	100.0%
Total	262	100.0%	

Sum = 3942.00
Mean = 15.05
Standard deviation = 1.51

Table 4.5: Frequencies of Age Category

AGE CATEGORY	Freq	Percent	Cum.
Middle	146	55.7%	55.7%
Old	16	6.1%	61.8%
Young	100	38.2%	100.0%
Total	262	100.0%	

Table 4.6: Frequencies of Statistical Regions

STATISTICAL REGION	Freq	Percent	Cum.
Boland	23	8.7%	8.7%
Border	1	0.4%	9.1%
Breede River	4	1.5%	10.6%
Central West Coast	5	1.9%	12.5%
Kenhardt	1	0.4%	12.9%
Little Karoo	1	0.4%	13.3%
Namaqualand	5	1.9%	15.2%
North West Cape	1	0.4%	15.5%
Overberg	3	1.1%	16.7%
Peninsular	212	80.3%	97.0%
Southern Cape	3	1.1%	98.1%
West Coast	5	1.9%	100.0%
Total	264	100.0%	

Table 4.7: Frequencies of Referral Agents

Referral Agents	Freq	Percent	Cum.
Community	39	14.8%	14.8%
Educational	40	15.2%	29.9%
Family	27	10.2%	40.2%
Govt/Social	38	14.4%	54.5%
Medical	120	45.5%	100.0%
Total	264	100.0%	

Table 4.8: Frequencies of Referral Agents on Discharge

Refferal Agent on Discharge	Freq	Percent	Cum.
Govt/Social	46	17.4%	17.4%
Medical	158	59.8%	77.3%
Other	60	22.7%	100.0%
Total	264	100.0%	

Table 4.9: Frequencies of Therapists

Therapists	Freq	Percent	Cum.
Psychologist	124	47.0%	47.0%
Nurse	72	27.3%	74.2%
Occupational Therapist	24	9.1%	83.3%
Social Worker	44	16.7%	100.0%
Total	264	100.0%	

Table 4.10: Frequencies of Reasons for Admission

Reasons for Admission	Freq	Percent	Cum.
Anxiety	13	4.9%	4.9%
Behaviour Problems	75	28.4%	33.3%
Mood	27	10.2%	43.6%
Other	21	8.0%	51.5%
Psychosis	28	10.6%	62.1%
Physical	12	4.5%	66.7%
Suicide	56	21.2%	87.9%
School	32	12.1%	100.0%
Total	264	100.0%	

Table 4.11: Cross-tabulation of Year of Admission and Reason for Admission

Reasons for Admission	Year of Admission					Total
	86	87	88	89	90	
Anxiety	0	2	2	4	5	13
Behaviour	1	11	11	30	21	74
Mood	1	7	8	6	5	27
Other	0	5	5	8	2	20
Psychosis	3	7	4	9	5	28
Physical	1	2	5	3	1	12
Suicide	2	9	11	17	17	56
School	7	6	8	6	5	32
Total	15	49	54	83	61	262

Chi square = 42.00
Degrees of freedom = 28
p value = 0.044 $\Longleftarrow$

Table 4.12: Frequencies of Reasons for Admission (secondary)

Reasons for Admission (secondary)	Freq	Percent	Cum.
Behaviour Problems	35	13.3%	13.3%
Family	126	47.7%	61.0%
Mood	14	5.3%	66.3%
Other	14	5.3%	71.6%
Psychosis	16	6.1%	77.7%
Physical	14	5.3%	83.0%
Suicide	13	4.9%	87.9%
School	16	6.1%	93.9%
Sexual	16	6.1%	100.0%
Total	264	100.0%	

Table 4.13: Cross-tabulation of Year of Admission and Reasons for Admission (secondary)

Reasons (secondary)	Year of Admission					Total
	86	87	88	89	90	
Behaviour	2	10	7	7	9	35
Family	9	18	21	50	27	125
Mood	0	4	3	4	3	14
Other	0	4	3	5	2	14
Psychosis	2	2	7	1	4	16
Physical	0	3	3	2	6	14
Suicide	2	0	4	3	4	13
School	0	7	3	2	3	15
Sexual	0	1	3	9	3	16
Total	15	49	54	83	61	262

Chi square = 46.23
Degrees of freedom = 32
p value = 0.049 $\Longleftarrow$

Table 4.14: Frequencies of Axis I Diagnoses

Axis I Diagnoses	Freq	Percent	Cum.
Adj.- Depression	7	2.7%	2.7%
Adjustment	98	37.1%	39.8%
Conduct	30	11.4%	51.1%
Family v-code	35	13.3%	64.4%
Mood	31	11.7%	76.1%
Other	23	8.7%	84.8%
Psychosis	17	6.4%	91.3%
Physical	8	3.0%	94.3%
Post-traumatic Stress	15	5.7%	100.0%
Total	264	100.0%	

Table 4.15: Cross-tabulation of Year of Admission and Axis I Diagnoses

Axis I Diagnoses	Year of Admission					Total
	86	87	88	89	90	
Adj.-Depression	0	0	1	4	2	7
Adjustment	4	24	30	30	8	96
Conduct	2	10	4	10	4	30
Family	1	1	5	13	15	35
Mood	2	7	4	10	8	31
Other	1	1	5	8	8	23
Psychosis	5	3	3	3	3	17
Physical	0	2	1	2	3	8
Post-traumatic Stress	0	1	1	3	10	15
Total	15	49	54	83	61	262

Chi square = 79.01
Degrees of freedom = 32
p value = 0.001 $\Longleftarrow$

Table 4.16: Frequencies of Axis II Traits

Axis II Traits	Freq	Percent	Cum.
Anti-social	2	4.1%	4.1%
Avoidant	3	6.1%	10.2%
Borderline	2	4.1%	14.3%
Histrionic	16	32.7%	46.9%
Mental Retardation	7	14.3%	61.2%
Obsessive-compulsive	1	2.0%	63.3%
Paranoid	1	2.0%	65.3%
Passive-Aggressive	11	22.4%	87.8%
Schitzotypal PD	1	2.0%	89.8%
Schizoid	2	4.1%	93.9%
V-Academic Problems	1	2.0%	95.9%
V-Borderline IQ	2	4.1%	100.0%
Total	49	100.0%	

Table 4.17: Frequencies of Axis II Traits (secondary)

Axis II Traits (secondary)	Freq	Percent	Cum.
Dependent	2	25.0%	25.0%
Histrionic	3	37.5%	62.5%
Passive-aggressive	3	37.5%	100.0%
Total	8	100.0%	

Table 4.18: Frequencies of Sex for stay less than one week

SEX	Freq	Percent	Cum.
f	5	27.8%	27.8%
m	13	72.2%	100.0%
Total	18	100.0%	

Table 4.19: Frequencies of Reasons for Admission for stay less than one week

REASONS FOR ADMISSION	Freq	Percent	Cum.
Anxiety	1	5.6%	5.6%
Behaviour	4	22.2%	27.8%
Mood	2	11.1%	38.9%
Psychosis	3	16.7%	55.6%
Suicide	5	27.8%	83.3%
School	3	16.7%	100.0%
Total	18	100.0%	

Table 4.20: Frequencies of Axis I Diagnoses for stay less than one week

AXIS I DIAGNOSES	Freq	Percent	Cum.
Adjustment	4	22.2%	22.2%
Conduct	2	11.1%	33.3%
Family	2	11.1%	44.4%
Mood	3	16.7%	61.1%
Other	6	33.3%	94.4%
Psychosis	1	5.6%	100.0%
Total	18	100.0%	

Table 4.21: Frequencies of Sex for stay less than 6 weeks

SEX	Freq	Percent	Cum.
f	54	45.8%	45.8%
m	64	54.2%	100.0%
Total	118	100.0%	

Table 4.22: Frequencies of Axis I Diagnoses for stay less than 6 weeks

AXIS I DIAGNOSES	Freq	Percent	Cum.
Adj.-Depression	1	0.8%	0.8%
Adjustment	38	32.2%	33.1%
Conduct	19	16.1%	49.2%
Family	15	12.7%	61.9%
Mood	11	9.3%	71.2%
Other	19	16.1%	87.3%
Psychosis	8	6.8%	94.1%
Physical	3	2.5%	96.6%
Post-traumatic stress	4	3.4%	100.0%
Total	118	100.0%	

Table 4.23: Frequencies of Axis II Traits for stay less than 6 weeks

AXIS II TRAITS	Freq	Percent	Cum.
Anti-social	1	5.6%	5.6%
Avoidant	1	5.6%	11.1%
Borderline	1	5.6%	16.7%
Histrionic	5	27.8%	44.4%
Mental Retardation	5	27.8%	72.2%
Passive-Aggressive	3	16.7%	88.9%
Schizotypal	2	11.1%	100.0%
Total	18	100.0%	

Table 4.24: Frequencies of Sex for stay longer than 6 weeks

SEX	Freq	Percent	Cum.
f	82	56.9%	56.9%
m	62	43.1%	100.0%
Total	144	100.0%	

Table 4.25: Frequencies of Reasons for Admission for stay longer than 6 weeks

REASONS FOR ADMISSION	Freq	Percent	Cum.
Anxiety	8	5.6%	5.6%
Behaviour	39	27.1%	32.6%
Mood	11	7.6%	40.3%
Other	12	8.3%	48.6%
Psychosis	15	10.4%	59.0%
Physical	8	5.6%	64.6%
Suicide	31	21.5%	86.1%
School	20	13.9%	100.0%
Total	144	100.0%	

Table 4.26: Frequencies of Axis I Diagnoses for stay longer than 6 weeks

AXIS I DIAGNOSES	Freq	Percent	Cum.
Adj.-Depression	6	4.2%	4.2%
Adjustment	58	40.3%	44.4%
Conduct	11	7.6%	52.1%
Family	20	13.9%	66.0%
Mood	20	13.9%	79.9%
Other	4	2.8%	82.6%
Psychosis	9	6.3%	88.9%
Physical	5	3.5%	92.4%
Post-traumatic stress	11	7.6%	100.0%
Total	144	100.0%	

Table 4.27: Frequencies of Axis II Traits for stay longer than 6 weeks

AXIS II TRAITS	Freq	Percent	Cum.
Anti-social	1	3.2%	3.2%
Avoidant	2	6.5%	9.7%
Borderline	1	3.2%	12.9%
Histrionic	11	35.5%	48.4%
Mental Retardation	2	6.5%	54.8%
Obsessive	1	3.2%	58.1%
Psychosis	1	3.2%	61.3%
Passive-Aggressive	8	25.8%	87.1%
Schizotypal PD	1	3.2%	90.3%
V-Academic Problems	1	3.2%	93.5%
V-Borderline IQ	2	6.5%	100.0%
Total	31	100.0%	

Table 4.28: Frequencies of Sex for stay longer than 3 months

SEX	Freq	Percent	Cum.
f	14	77.8%	77.8%
m	4	22.2%	100.0%
Total	18	100.0%	

Table 4.29: Frequencies of Reasons for Admission for stay longer than 3 months

REASONS FOR ADMISSION	Freq	Percent	Cum.
Anxiety	2	11.1%	11.1%
Behaviour	2	11.1%	22.2%
Mood	1	5.6%	27.8%
Other	2	11.1%	38.9%
Psychosis	3	16.7%	55.6%
Suicide	4	22.2%	77.8%
School	4	22.2%	100.0%
Total	18	100.0%	

Table 4.30: Frequencies of Axis I Diagnoses for stay longer than 3 months

AXIS I DIAGNOSES	Freq	Percent	Cum.
Adjustment	7	38.9%	38.9%
Conduct	1	5.6%	44.4%
Family	1	5.6%	50.0%
Mood	5	27.8%	77.8%
Psychosis	2	11.1%	88.9%
Physical	1	5.6%	94.4%
Post-traumatic stress	1	5.6%	100.0%
Total	18	100.0%	

4.3 Multi-Dimensional Findings

The relationship between variables was ascertained by cross-tabulating variables. All of the variables were cross-tabulated with one another, however, only the relationships which were significant have been reported in these results. Tables of the of the variables which were not significantly related, have been included in Appendix A.

4.3.1 Cross-tabulations of the Age Variable

The age variable was found to be dependent on the reasons for admission and therapist variables. However, the large number of empty cells make the expected frequencies rather small in the 12, 19 and 22 year-old group, making the Chi square test suspect. Therefore ages have been collapsed into age categories and are reported on later.

The age of the adolescent was found to be significantly related to the reason for admission (see table 4.31) (χ^2_{56} =89,49; p =0,003). Behaviour problems accounted for 37% of the presenting problems of 14 year-old's and 32% of 15 year-old's, while suicide (that is, suicidal ideation or attempt) was reported as the reason for admission in 33% of 16 year-old's.

The age of the adolescent in-patient was significantly related to the therapist case manager (see table 4.32) (χ^2_{24} = 40,47; p < 0,05). For the psychologists 24% of cases and for the social worker, 36% of cases were 15 year-old's. For the nurses, 25% of cases were 16 year-old's and for the occupational therapist, 33% of cases were 16 year-old's.

4.3.2 Cross-tabulations of the Age Category Variable

When ages were categorised into groups of young, middle and old age groups, age categories were significantly related to reasons for admission.

The age, when categorised into groupings, was significantly related to the reasons for admission

(see table 4.33)(χ^2_{14} = 30,23; p = 0,007). 59% of those who presented with'mood' as a reason for admission and 71% of those presenting with 'suicide', were in the middle age group (15-17 years). 50% of those presenting with physical complaints were in the younger age group (10-14 years).

4.3.3 Cross-tabulations of the Sex Variable

Sex was found to be significantly dependent on the reasons for admission and axis I diagnoses. The reasons for admission were dependent on sex (see table 4.34) (χ^2_7 = 21,11; p = 0,004). There were more females who were admitted for reasons of anxiety (11 females to 3 males) and for reasons relating to suicide (38 females to 18 males). More males were admitted for reasons referred to as behavioural problems (45 males to 30 females) and school related problems (20 males to 12 females).

The axis I diagnoses were dependent on sex (see table 4.35) (χ^2_8 = 19,15; p = 0,014). There were more females than males who were diagnosed as showing post-traumatic stress disorder on axis I (13 females, 2 males) and more females than males were diagnosed as showing adjustment disorder (58 females, 40 males). More males than females were diagnosed as showing conduct disorder (20 males, 10 females) and more males than females received diagnoses labelled 'other' (15 males, 8 females).

4.3.4 Cross-tabulations of the Reasons for Admission Variable

The reasons for admission were found to be significantly related to many of the variables, namely, age, age category, sex, accompanying reasons for admission, axis I diagnoses, referral agent and agent on discharge.

The main reason for admission was significantly related to the accompanying reasons for admission (see table 4.36) (χ^2_{56} = 113,35; p < 0,001). Of those with family problems noted as

accompanying reasons for admission, 31% were described as having behaviour problems, 28% suicide and 14% school related problems as the main reason for admission. Of those presenting with behaviour problems as a main reason for admission, 52% had accompanying family problems. Of those presenting with suicide attempts or ideation, 62% had accompanying family problems and of those presenting with school problems, 56% had accompanying family problems.

The main reason for admission was dependent on the referral agent (see table 4.37) ($\chi^2_{28} = 56{,}51$; $p = 0{,}001$). Of those referred to the unit, 29% of those referred for behavioural problems, were referred by 'government/social' agencies. Of the patients referred by government agencies, 58% were admitted for behavioural problems. The medical sector referred 64% of cases for reasons involving suicidal attempts or ideation, 75% of those referred for reasons including psychoses and 31% of those with school problems.

Of all the patients referred by the medical sector, 30% had problems involving suicide attempts or ideation, 18% were referred for psychotic conditions and 30% were referred for school problems.

Results showed that the agency to which the adolescent was referred on discharge, was dependent on the reason given for admission (see table 4.38) ($\chi^2_{14} = 23{,}95$; $p = 0{,}047$). Of those patients whose reasons for admission were described as behavioural problems, 52% were referred to medical services on discharge and 28% were referred to government services on discharge. Of those whose reasons for admission related to suicide, 46% were referred to medical services on discharge and of those whose reasons for admission related to school issues, 72% were referred to medical services on discharge. 66% of mood disorders, 61% of psychotic conditions and 92% of physical conditions were referred to the medical sector on discharge. Of all the reasons for admission given, those relating to suicide (36%) were most often referred to 'other' agencies.

4.3.5 Cross-tabulations of the Accompanying Reasons for Admission Variable

Accompanying reasons for admission were significantly related to reasons for admission, axis I diagnoses, axis II traits and referral agent on discharge. Discussion on the nature of these relationships are included in the discussions of each of the other variables and not below.

4.3.6 Cross-tabulations of the Axis I Diagnosis Variable

The axis I diagnosis variable was dependent on sex, reasons for admission, accompanying reasons for admission, axis II diagnoses and agent on discharge.

The axis I diagnosis was significantly related to the main reasons for admission (see table 4.39) ($\chi^2_{56} = 163{,}55$; $p < 0{,}001$). A diagnosis of adjustment disorder was given for the following reasons for admission; 52% of those presenting with mood; 48% presenting with 'other' reasons for admission; 47% presenting with school related reasons for admission; 39% of those presenting with suicide as a reason for admission and 29% of those presenting with behaviour disorders.

Moreover, of those whose main reason for admission was behaviour problems, 29% were diagnosed conduct disorder and 29% diagnosed adjustment disorder. Of those who presented with 'psychosis' as a reason for admission, 35% received psychotic related diagnoses on axis I and 29% received a diagnosis of adjustment disorder. Of those receiving psychotic related diagnoses, 59% presented with psychotic features and 29% of those presenting with behaviour problems. Of those who received an axis I diagnosis of post-traumatic stress, 33% presented with anxiety and 27% with suicidal attempts or ideation. Of those presenting with anxiety, 38% received a diagnosis of post-traumatic stress.

The axis I diagnosis was also significantly related to accompanying reasons for admission (see table 4.40) ($\chi^2_{64} = 181{,}09$; $p < 0{,}001$). Of those who had family problems as related reasons

for admission, 52% received an axis I diagnosis of adjustment disorder, 86% received a v-code family problems diagnosis and 39% an axis I mood diagnosis. Of those who received an axis I diagnosis relating to psychosis, 35% presented with psychotic features accompanying the main reason for admission. Of those who received an axis I diagnosis of post-traumatic stress, 40% presented with sexual problems.

38% of those who presented with sexual problems as accompanying reasons for admission, received a diagnosis of post-traumatic stress. Of those with psychosis as an accompanying reason for admission, 38% received an axis I diagnosis of psychosis and 31% a diagnosis of mood disorder. Of those with mood as an accompanying reason for admission, 43% received a diagnosis of mood and 43% of adjustment disorder. Of those receiving a diagnosis of mood disorder, 39% presented with accompanying family preoblems. Of those with behaviour problems as an accompanying reason for admission, 37% received an axis I diagnosis of adjustment disorder.

The axis I diagnosis was significantly related to the referral agent (see table 4.42) ($\chi^2_{32} = 46{,}55$; $p = 0{,}047$). A diagnosis of adjustment disorder was used to describe 49% of those referred by community agencies, 36% of those referred by government/social agencies and 35% of those referred by medical agencies. Government/social agencies referred 37% of cases who were later diagnosed conduct disorder.

The axis I diagnosis was dependent on the agent to which the patient was referred on discharge (see table 4.41) ($\chi^2_{16} = 39{,}52$; $p < 0{,}001$). 63% of those diagnosed as adjustment disorder, were referred to the medical sector on discharge; 33% of those diagnosed as conduct disorder were referred to 'government' services on discharge; 52% of those grouped together in the 'other' axis I diagnosis category, were referred to 'other' agencies on discharge.

4.3.7 Cross-tabulations of the Axis II Trait Variable

The description of adolescent in-patients in terms of axis II traits, were found to be significantly related to accompanying reasons for admission.

Concerning the accompanying reasons for admission (see table 4.44) ($\chi^2_{88} = 127{,}37$; $p = 0{,}004$), 39% of those described as showing axis II traits were recorded as being admitted for 'family problems' (with more histrionic traits noted) and 20% for behavioural problems (with more passive- aggressive traits noted).

4.3.8 Cross-tabulations of the Referral Agent on Admission Variable

The referral agent on admission was dependent on reasons for admission, axis I diagnoses and agent on discharge.

The referral agent on admission was significantly related to the referral agent on discharge (see table 4.45) ($\chi^2_8 = 53{,}66$; $p < 0{,}001$). 59% of those referred by community agencies, 55% of educational referral agencies and 74% of family related agencies were referred to the medical sector on discharge. 46% of those referred by government agencies were referred to government agencies on discharge.

4.3.9 Cross-tabulations of the Referral Agent on Discharge Variable

The referral agent on discharge was found to be dependent on reasons for admission, accompanying reasons for admission, axis I diagnoses and referral agent on admission.

The agent to which the adolescent was referred on discharge was significantly related to the accompanying reasons for admission (see table 4.43) ($\chi^2_{16} = 28{,}18$; $p = 0{,}3$). The medical sector received patients on discharge for all accompanying reasons for admission, except in the case of mood, where 50% were referred to 'other' agencies and in the case of 'suicide' where 46% were referred to 'other' agencies and 46% to the medical sector.

4.3.10 Therapist

The therapist variable was significantly dependent on the age of the in-patient adolescent (as previously described).

4.4 Tables Referred to in Multi-Dimensional Findings

Table 4.31: Reasons for Admission and Age

Reasons for Admission	Age									Total
	12	13	14	15	16	17	18	19	22	
Anxiety	0	5	1	4	2	1	0	0	0	13
Behaviour	2	8	23	21	13	5	2	0	0	74
Mood	0	3	4	6	7	3	4	0	0	27
Other	0	3	5	6	3	3	0	0	0	20
Psychosis	1	6	6	5	6	1	3	0	0	28
Physical	2	0	4	1	1	1	2	0	1	12
Suicide	0	2	10	14	19	7	2	2	0	56
School	2	4	9	9	6	2	0	0	0	32
Total	7	31	62	66	57	23	13	2	1	262

Chi square = 89.49
Degrees of freedom = 56
p value = 0.003

Table 4.32: Cross-tabulation of Therapist and Age

Therapist	Age									Total
	12	13	14	15	16	17	18	19	22	
Psychologist	1	11	29	30	25	19	6	0	1	122
Nurse	3	14	14	16	18	1	4	2	0	72
Occupational Therapist	2	4	5	4	8	1	0	0	0	24
Social Worker	1	2	14	16	6	2	3	0	0	44
Total	7	31	62	66	57	23	13	2	1	262

Chi square = 40.47
Degrees of freedom = 24
p value $< 0.05 \Longleftarrow$

Table 4.33: Cross-tabulation of Reasons for Admission and Age Category

Reasons for Admission	Age Category			Total
	Y	M	O	
Anxiety	6	7	0	13
Behaviour	33	39	2	74
Mood	7	16	4	27
Other	8	12	0	20
Psychosis	13	12	3	28
Physical	6	3	3	12
Suicide	12	40	4	56
School	15	17	0	32
Total	100	146	16	262

Chi square = 30.23
Degrees of freedom = 14
p value = 0.007 $\Longleftarrow$

Table 4.34: Cross-tabulation of Reasons for Admission and Sex

Reasons for Admission	Sex		Total
	f	m	
Anxiety	11	2	13
Behaviour	30	45	75
Mood	13	14	27
Other	10	11	21
Psychosis	14	14	28
Physical	9	3	12
Suicide	38	18	56
School	12	20	32
Total	137	127	264

Chi square = 21.11
Degrees of freedom = 7
p value = 0.004

Table 4.35: Cross-tabulation of Axis I Diagnoses and Sex

Axis I	Sex		Total
	f	m	
Adj.-Depression	4	3	7
Adjustment	58	40	98
Conduct	10	20	30
Family	16	19	35
Mood	17	14	31
Other	8	15	23
Psychosis	6	11	17
Physical	5	3	8
Post-traumatic Stress	13	2	15
Total	137	127	264

Chi square = 19.15
Degrees of freedom = 8
p value = 0.014 $\Longleftarrow$

Table 4.36: Cross-tabulation of Reasons for Admission and Secondary Reasons for Admission

Reasons for Admission	Reasons (Secondary)									Total
	B	F	M	O	P	PH	S	SC	SEX	
Anxiety	0	5	0	2	0	2	0	2	2	13
Behaviour	7	39	3	5	4	3	6	2	6	75
Mood	6	6	2	1	3	0	0	6	3	27
Other	6	9	0	2	1	0	1	2	0	21
Psychosis	1	10	3	1	6	0	1	3	3	28
Physical	0	4	1	2	0	4	1	0	0	12
Suicide	8	35	4	0	2	3	1	1	2	56
School	7	18	1	1	0	2	3	0	0	32
Total	35	126	14	14	16	14	13	16	16	264

Chi square = 113.35
Degrees of freedom = 56
p value = 0.001 $\Longleftarrow$

Key:									
B	=	Behaviour problems	O	=	Other	S	=	Suicide
F	=	Family	P	=	Psychoses	SC	=	School
M	=	Mood	PH	=	Physical	SEX	=	Sexual

Table 4.37: Cross-tabulation of Referral Agent and Reasons for Admission

Referral Agent	Reasons for Admission								Total
	A	B	M	O	P	PH	S	SC	
Community	3	12	4	3	2	3	5	7	39
Educational	3	12	2	7	2	1	7	6	40
Family	2	10	4	2	2	0	4	3	27
Govt/Social	0	22	2	2	1	1	4	6	38
Medical	5	19	15	7	21	7	36	10	120
Total	13	75	27	21	28	12	56	32	264

Chi square = 56.51
Degrees of freedom = 28
p value = 0.001 $\Longleftarrow$

Table 4.38: Cross-tabulation of Agent on Discharge and Reasons for Admission

Discharge Agent	Reasons for Admission								Total
	A	B	M	O	P	PH	S	SC	
Govt/Social	1	21	2	4	4	0	10	4	46
Medical	9	39	18	15	17	11	26	23	158
Other	3	15	7	2	7	1	20	5	60
Total	13	75	27	21	28	12	56	32	264

Chi square = 23.95
Degrees of freedom = 14
p value = 0.047 $\Longleftarrow$

Key

A	=	Anxiety	O	=	Other	S	=	Suicide
B	=	Behaviour problems	P	=	Psychoses	SC	=	School
F	=	Family	PH	=	Physical	SEX	=	Sexual
M	=	Mood						

Table 4.39: Cross-tabulation of Axis I and Reasons for Admission

Axis I	Reasons for Admission								Total
	A	B	M	O	P	PH	S	SC	
Adj.- Depression	0	3	0	0	0	0	3	1	7
Adjustment	3	22	14	10	8	4	22	15	98
Conduct	0	22	0	1	1	0	2	4	30
Family	1	12	1	4	1	2	9	5	35
Mood	1	3	7	2	5	1	9	3	31
Other	3	4	3	1	3	1	5	3	23
Psychosis	0	5	0	0	10	1	1	0	17
Physical	0	2	0	2	0	3	1	0	8
Post-traumatic Stress	5	2	2	1	0	0	4	1	15
Total	13	75	27	21	28	12	56	32	264

Chi square = 163.55
Degrees of freedom = 56
p value = 0.001 $\Longleftarrow$

Table 4.40: Cross-tabulation of Axis I Diagnoses and Reasons for Admission (secondary)

Axis I	Reasons (Secondary)									Total
	B	F	M	O	P	PH	S	SC	SEX	
Adj.- Depression	0	5	0	0	0	0	1	0	1	7
Adjustment	13	51	6	7	2	1	4	10	4	98
Conduct	9	12	1	1	1	0	4	0	2	30
Family	1	30	0	1	0	2	1	0	0	35
Mood	4	12	6	1	5	1	0	2	0	31
Other	4	4	1	2	1	6	2	1	2	23
Psychosis	1	5	0	1	6	0	1	2	1	17
Physical	1	2	0	1	1	3	0	0	0	8
Post-traumatic Stress	2	5	0	0	0	1	0	1	6	15
Total	35	126	14	14	16	14	13	16	16	264

Chi square = 181.09
Degrees of freedom = 64
p value = 0.001 $\Longleftarrow$

Key
A = Anxiety
B = Behaviour problems
F = Family
M = Mood
O = Other
P = Psychoses
PH = Physical
S = Suicide
SC = School
SEX = Sexual

Table 4.41: Cross-tabulation of Agent on Discharge and Axis I Diagnoses

Discharge Agent	Axis I Diagnosis									Total
	AD	ADJ	C	F	M	O	P	PH	PTS	
Govt/Social	0	19	10	8	3	4	0	0	2	46
Medical	5	62	12	21	18	7	12	8	13	158
Other	2	17	8	6	10	12	5	0	0	60
Total	7	98	30	35	31	23	17	8	15	264

Chi square = 39.52
Degrees of freedom = 16
p value = 0.001 $\Longleftarrow$

Table 4.42: Cross-tabulation of Referral Agent and Axis I Diagnoses

Referral Agent	Axis I Diagnosis									Total
	AD	ADJ	C	F	M	O	P	PH	PTS	
Community	0	19	7	4	2	2	1	0	4	39
Educational	2	12	4	3	8	3	2	2	4	40
Family	1	11	2	7	2	3	1	0	0	27
Govt/Social	1	14	11	3	2	4	2	0	1	38
Medical	3	42	6	18	17	11	11	6	6	120
Total	7	98	30	35	31	23	17	8	15	264

Chi square = 46.55
Degrees of freedom = 32
p value = 0.047 $\Longleftarrow$

Key

AD	=	Adjustment - Depression	F	=	Family	P	=	Psychoses
ADJ	=	Adjustment	M	=	Mood	PH	=	Physical
C	=	Conduct	O	=	Other	PTS	=	Post-traumatic stress

Table 4.43: Cross-tabulation of Agent on Discharge and Reasons for Admission (secondary)

Discharge Agent	Reasons (Secondary)									Total
	B	F	M	O	P	PH	S	SC	SEX	
Govt/Social	7	27	3	1	2	0	1	1	4	46
Medical	18	81	4	9	12	8	6	12	8	158
Other	10	18	7	4	2	6	6	3	4	60
Total	35	126	14	14	16	14	13	16	16	264

Chi square = 28.18
Degrees of freedom = 16
p value = 0.030 $\Longleftarrow$

Table 4.44: Cross-tabulation of Axis II Traits and Reasons for Admission (secondary)

Axis II Traits	Reasons (Secondary)									Total
	B	F	M	O	P	PH	S	SC	SEX	
Anti-social	2	0	0	0	0	0	0	0	0	2
Avoidant	1	1	0	0	0	0	0	1	0	3
Borderline	0	1	0	0	0	0	1	0	0	2
Histrionic	2	7	1	1	1	0	2	0	2	16
Mental Retardation	1	4	0	0	0	0	1	0	1	7
Obsessive	0	0	0	0	0	1	0	0	0	1
Psychosis	0	0	0	0	0	0	0	1	0	1
Passive-Aggressive	3	5	0	0	0	1	0	1	1	11
Schizotypal PD	0	0	0	0	1	0	0	0	0	1
Schizotypal	0	0	0	2	0	0	0	0	0	2
V-Academic Problems	0	0	0	1	0	0	0	0	0	1
V-Borderline IQ	1	1	0	0	0	0	0	0	0	2
Total	10	19	1	4	2	2	4	3	4	49

Chi square = 127.37
Degrees of freedom = 88
p value = 0.004 $\Longleftarrow$

Key

A	=	Anxiety	O	=	Other	S	=	Suicide
B	=	Behaviour problems	P	=	Psychoses	SC	=	School
F	=	Family	PH	=	Physical	SEX	=	Sexual
M	=	Mood						

Table 4.45: Cross-tabulation of Agent on Discharge and Referral Agent

Discharge Agent	Referral Agent					Total
	C	E	F	G	M	
Govt/Social	8	8	0	21	9	46
Medical	23	22	20	10	83	158
Other	8	10	7	7	28	60
Total	39	40	27	38	120	264

Chi square = 53.66
Degrees of freedom = 8
p value = 0.001 $\Longleftarrow$

Key					
C	=	Community	G	=	Government/Social
E	=	Educational	M	=	Medical
F	=	Family			

Chapter 5

Analysis and Recommendations

5.1 Conclusion of Results and Summary of Trends

Although population figures are known to be unreliable, estimates of coloured adolescents in the Western Cape (Kustner, 1990; Central Statistics Service, 1991), receiving inpatient mental health care at Lentegeur hospital, amount to 0,02% of the population of adolescents in the Western Cape. However problematic, this figure is nevertheless considerably lower than Burns' (1991) estimate of 0,6% of adolescents receiving specialty mental health services from institutions in the USA. With prevalence rates of mental disorder estimated at approximately 20%, the bleak picture of extensive unmet need for treatment among adolescents is confirmed.

In 1986 the Sonstraal adolescent in-patient unit moved from Valkenberg hospital to Lentegeur hospital in Mitchell's Plain, therefore the increase in admissions particularly from 1986 to 1987, is to be expected as the referral sources adapted to the new location of the hospital. Moreover, the drop in admissions during 1990 is expected in the light of the inclusion of out-patient treatment as one of the treatment modalities. The indication that out-patient is a growing treatment modality of the unit, is in line with recommendations that 'less restrictive', out-patient treatment be offered to adolescents (Burns, 1991). As in other studies, there is however no indication as to the movement of adolescents through the care delivery system (Thompson et al, 1986). Thus the question as to what extent the out-patient service is being used as a

prelude to inpatient care and as a transitional service from inpatient care to the community (Burns, 1991), remains and could be investigated in further studies.

The largest proportion (80%) of adolescents were referred from the greater Peninsular area, with 28% of referrals from Mitchell's Plain. Thus primarily local needs, referring to the greater Cape Town area, are served, but the geographical situation of Lentegeur Hospital in Mitchell's Plain has not resulted in an over-representation of patients from the immediate area.

However, the under-representation (11% of referrals) of adolescents from rural and outlying areas raises the question of the adequacy of mental health services to these areas. This finding can be contrasted to a study in the Natal region where of 30% of referrals coming from distant areas (up to 400 km away)(Moodley & Pillay, 1993). In this study it was found that 12% of referrals came from community nurses, mainly in the rural areas. Moodley & Pillay (1993) called for continuing education programmes as identification of needs and referral for management is effective. From the above, it can be hypothesised that referrals from outlying areas in the Cape region are not being made because of lack of identification of mental health problems. If this is the case, it would be important that those at the front line of mental health care to adolescents receive education programmes in the identification of mental health needs as recommended by Gillis (1990), Klopper (1991), Health Policy Forum (1992).

Alternatively, it could be hypothesised that a lack of identification of adolescent mental health needs from outlying or rural areas is the result of a lack of contextualisation of adolescent symptomatology. As the literature affirms the importance of cultural differences in presentation of symptomatology (Kleinman, 1987; Nikapota, 1991; Minde, 1992; Robertson & Kottler, 1993) it follows that this knowledge should be applied in community education programmes on the identification of mental health needs and adolescent developmental issues (Rutter & Hersov, 1985). Perceptions of whether or not a psychiatric hospital is the appropriate treatment source

for adolescents and stigma attached to this may be important factors leading to the low levels of referrals from outlying areas which could be addressed in educational programmes.

The sex ratio of males to females was almost equal with small fluctuations and are in line with population figure percentages (Kustner, 1990). This corresponds to Burns' (1991) finding of equal numbers of males and females for in-patient treatment services. The findings differ, however, from Thompson et al (1986) who reported more male than female admissions noting that male admissions increased with age. In this study lower numbers of admissions for older adolescents were noted, which may account for the relatively lower number of males in the study when compared with Thompson et al's (1986) finding. Alternatively, it may be an unstated practice, due to the physical constraints of numbers of beds and the division of the ward, to maintain fairly equal numbers of males and females on the ward.

Alternatively, the finding that females present in equal numbers to males in this community may be adaptive in the sense that the 'cry for help' is successful. However, this is not to undermine the seriousness of this presentation of psychopathology nor the potential link between suicidal attempts, prior experiences of childhood sexual abuse and later diagnoses of borderline personality disorder (Zanarini, Gunderson, Marino, Swartz & Frankenberg, 1989; Linehan & Wasson, 1990).

Differing patterns of presenting problems and axis I diagnoses were noted for the sexes. Males tended to present with behavioural and school related problems and to receive axis I diagnoses of conduct disorder, which is consistent with findings that males tend towards more disruptive and externalising behaviours (Costello, 1989). Females presented with mainly anxiety and suicidal attempts and received axis I diagnoses of post-traumatic stress and adjustment disorder. The female preponderance for suicide attempts is consistent with Garfinkel et al (1982). Studies elaborating the gender issues in the presentation and diagnosis of psychiatric disorders among

adolescents are required.

Adolescents within the 14-16 age range constitute 71% of those treated by the unit. Although this group constitutes the largest proportion of the population in general (Kustner, 1990), the high admission rate may indicate an intensification of adolescent psychopathology within this age range. This age range could therefore be targeted for preventative/community programmes. The very low number (6%) of older adolescents treated by the unit raises the issue as to whether or not the unit is perceived to be treating younger adolescents and could consider specialising in the treatment of younger to middle aged adolescents. The question of what happens to older adolescents remains unanswered.

Most of the adolescent in-patients, that is, over one quarter (28%), were referred for behaviour problems. This finding corresponds with Parry-Jones' (1985) finding that anti-authority or anti-social behaviour are among the commonly presenting problems of adolescents. The age range of those presenting mainly with behaviour problems on admission were fourteen and fifteen year-old's. Behaviour problems as a reason for admission were most often accompanied by family problems as a secondary reason for admission. This finding is supported by Velez et al (1988) who found family problems to increase the risk for behaviour disorders.

Over a quarter (29%) of those referred for behaviour problems were diagnosed as conduct disorder on axis I and over a quarter (29%) were diagnosed as adjustment disorder. This corresponds with Burns' (1991) finding that behaviour disorders (and adjustment disorders) were the most common axis I diagnoses across all levels of care (out-patient, partial hospitalisation and in-patient care). It also corresponds with Moodley & Pillay's (1993) finding of 31% of a hospital sample being diagnosed as showing disruptive behaviour disorders. The finding of this study is lower than Graham & Rutter's (1985) finding of 40% of those showing psychiatric disorders (in a community study) being diagnosed conduct disorder. This difference may be attributed

to the contrast between community-based studies and hospital and may therefore indicate that fewer cases of conduct disorder present to hospitals for treatment, than exist in the community. Studies investigating community coping mechanisms for adolescents with behavioural problems, are necessary.

The high number of in-patients diagnosed as conduct disorder, has implications for staffing and treatment approaches. Moodley & Pillay (1993) argued for appropriate control measures in the unit and for male nurses, as children with such disorders imposed greater physical demands on the staff. Treatment approaches differ for the type of conduct disorder (Kaplan & Sadock, 1991) and success during treatment have often been lost on follow-up (Kirigin et al, 1992; Rutter & Giller, 1983). This emphasises the importance of follow-up studies to gauge the effectiveness of the treatment programme and modification of the criteria for in-take or treatment context.

It was found that a higher percentage (than the sample in general) of those whose length of treatment was less than six weeks were males, were given axis I diagnoses of conduct disorder and showed more axis II diagnoses of mental retardation. This is consistent with the policy of the unit to discharge those with conduct disorder and mental retardation, after an assessment period. In addition, this finding shows a similar pattern to findings of another South African study (Moodley & Pillay, 1993). In this study, higher levels of behaviour problems (82% of referrals) were found, as well as higher levels of mental retardation (35%) and a length of stay of 30 days for 51%. Thus the 'profile' of those staying less than 6 weeks shows appropriate intensity of treatment, in that they are admitted to the unit for an assessment period. Although not clear from this study, it is possible that the duration of the assessment period is up to six weeks, which is longer than anticipated in the policy of the unit. It is therefore recommended that criteria for and practice surrounding the assessment period be investigated.

Suicide was the second most common presenting problem, accounting for 21% of patients admit-

ted to the unit. Of those presenting with suicide, 39% were diagnosed as adjustment disorder. This may be a case where the diagnosis of adjustment disorder is 'masking the severity' of the condition (Parry-Jones, 1985). The numbers of adolescents presenting with suicide, is alarming given the statistics that 10% of suicide attempts subsequently suicide within ten years (Kaplan & Sadock, 1991). Moreover, of those presenting with suicide, 16% are diagnosed as showing mood disorder, which is alarming given that 45-70% of suicides have mood disorder (Kaplan & Sadock, 1991). An additional finding from this study, was that suicide is often accompanied by family problems as a secondary reason for admission and the focus of treatment became the family in 16% of cases which were given a diagnosis of v-code family problems. All of these factors together indicate that longer term follow-up of those presenting with suicide is necessary and the need for at least a family orientated, if not community orientated education and intervention programme.

Of those who presented with suicide as a reason for admission, 71% were within the middle age group (15-17 years). This finding concurs with Flisher et al's (a, 1993) finding that suicide attempts peaked for females in standard seven (14-15 years). Moreover, this finding is consistent with Hawton & Goldacre's (1982) more general finding that suicide attempts peak at 15 to 19 years. Thus preventative or education programmes dealing with suicide should be targeted to the younger to middle age adolescents.

Rates of school problems as constituting 12% of presenting problems on admission, ranking third highest among the reasons for admission, seems relatively high when compared with prevalence rates for school refusal. In this study, school refusal constitutes 9,5% of school problems referred to as a reason for admission. This rate is higher than rates from other countries. Prevalence rates for school refusal range from 3% (Rutter et al, 1985; Smith, 1970) to 8% (Kahn & Nursten, 1962). School refusal sometimes presents with somatic disguise (Hersov, 1985), which may relate to the high number of younger adolescents presenting with physical

symptoms. A hypothesis for the usually low rate of referrals of school refusal, is that it is dealt with effectively by general practitioners and therefore not referred to the hospital setting (Hersov, 1985), thus in this context it may be that general practitioners are not dealing adequately with school refusal.

It may be hypothesised that the high prevalence rate for school refusal in this context may be influenced by the blurring of boundaries between truancy and school refusal. This is illustrated by the language used in reasons given for admission, where descriptions like "s/he is refusing to go to school" could be anxiety-related, behaviour-related and is without doubt influenced by the specific educational context in South Africa at present.

Lower academic achievement or school failure has been found to be associated with an increased risk for behaviour problems in all the four studies reviewed by Costello (1989) and not specifically school refusal. Tyrer & Tyrer (1974) found that school refusal, particularly occuring in adolescence, occured significantly more among adult psychiatric patients and concluded that children who presented with school refusal are at risk for psychiatric disorder in adult life. The prognosis for school refusal occuring in adolescence is therefore not promising.

Explanations of the high rate of school refusal may involve cultural and context issues, namely that school refusal problems are over- determined (Westermeyer, 1987) in the greater Peninsular region and should be further investigated. This hypothesis would be supported by the growing crisis in education in South Africa (Hartshorne, 1992; Mokwena, 1992) and failure of the educational system to meet the educational needs of students (Donald, in press; Hartshorne, 1992).

School related problems as reasons for admission were related to an axis I diagnosis of adjustment disorder. The ages of those with school related problems includes those in both younger and middle age groupings indicating that it is unlikely to be the adjustment to high school

precipitating admission as is sometimes found (Hersov, 1985). It is more likely to be associated with family problems given a high rate of such problems mentioned as accompanying reasons for admission. Further studies are necessary to clarify the nature of and extent of family problems in the context of the community served by the hospital with a view to establishing preventative or educative programmes and to feeding into the multi-family meetings held at the Sonstraal unit.

Adjustment disorder was the most common axis I diagnosis, diagnosed in 37% of adolescents treated in the unit. The extensive use of the diagnosis corresponds with Burns' (1991) finding of adjustment disorder (and behaviour disorder) being the most common diagnosis across all levels of care. This study, with the finding of 11,7% diagnosed mood disorder, has not supported Burns' (1991) finding of affective disorder being the most common diagnosis for in-patient settings. To explain this finding, it can be hypothesised that some cases of mood disorder may be misdiagnosed as adjustment disorder or that referral sources refer cases of mood disorder elsewhere. To add to the picture of adolescent mental health care, similar studies of other services in the Western Cape would be useful.

The extensive use of the diagnosis of adjustment disorder, may reflect a reluctance to diagnose psychiatric disorder in adolescents and a focus on maturational processes (Serrano et al 1962). The use of this diagnostic category with connotations of transience, may conceal more serious disorders (Graham & Rutter, 1985). However, the use of the diagnosis of adjustment disorder may be a comment by mental health professionals on the levels of psycho-social stressors faced by adolescents in this context. The decrease in the diagnosis of adjustment disorder in 1990 may be explained by an increase in this type of problem being handled by the out-patient service. This change may be associated with an increase in the use of the v-code family problems diagnosed on axis I which is consistent with the hypothesis of a reluctance to diagnose mental disorder within the individual and a conceptualisation of the family being the focus of

treatment.

It was found that, compared with the sample in general, most adolescents who receive treatment for longer than six weeks are females, are diagnosed as showing a higher percentage of adjustment disorder, mood and post-traumatic stress disorder and show more axis II traits of passive-aggression and hysteria (histrionic). The juxtaposition of the diagnosis of adjustment disorder with connotations of transience and possible association with an increased reporting of axis II traits, reflecting the possibility of personality difficulties which require longer term treatment (Kaplan & Sadock; 1991), seems contradictory and requires further illumination. Although only personality traits are reported, this association of axis II traits with adjustment disorder, seems to be out of line with increasing tendencies to conceptualise of personality disorders as life-style disorders (Linehan, 1987).

Adolescents who received an axis I diagnosis of 'psychosis', presented with psychotic features (including so-called 'bizarre behaviour') and behaviour problems. This loosely defined grouping of psychosis was diagnosed in 6% of cases presenting roughly equally in younger and middle aged adolescents and not among older adolescents (although the latter finding could be due to chance as axis I diagnoses were not significantly related to age categories). This finding is lower than Warren's (1965) findings of psychosis in 15% of younger adolescents and 25% in older adolescents. The finding of relatively lower cases of psychosis may be due to the lower number of older adolescents in the study (Thompson et al, 1986) or to referral patterns in the region.

In-patients diagnosed as schizophrenic amounted to 6% of cases, which is almost equal to Weiner & del Gaudio's (1976) finding of 8,5% in a county case register study. There is some basis for a hypothesis that psychotic conditions may not be identified in the community and referred to the appropriate psychiatric setting, particularly as a high number of psychotic conditions has been reported in the coloured community (Dick et al, 1978). Further studies as to identifica-

tion, referral and treatment patterns of psychosis among adolescents in the Peninsular region, is necessary.

Notable among those who were treated in the unit for more than three months were adolescents for whom psychosis was presented as the reason for admission and who received axis I diagnoses of both mood and psychotic disorders (more often than was found in the sample in general). This indicates appropriate intensity of treatment in that those with more severe psychopathology were treated for longer as inpatients (Burns, 1991; England & Cole, 1992). However, it was also noted that for those who were treated in the unit for less than one week, also had stated reasons for admission as psychotic and suicide and also received axis I diagnoses of mood disorders more often than in the general sample.

This finding although difficult to interpret may be due to the presentation of psychosis and suicide as a psychiatric emergency and longer hospitalisation in such cases may not be necessary. However, these cases are usually settled in an adult ward in Lentegeur or are referred from a general hospital prior to treatment. Clarification of the criteria for short term assessment and decision making regarding types of treatment offered, is indicated.

On closer inspection of the results prior to reduction into categories, it appears that those who were treated for longer than three months in the unit and received an axis I diagnosis of mood disorders, were diagnosed mainly as bipolar affective disorder, often in the manic phase. Those receiving an axis I diagnosis of mood disorder, who stayed in the unit for less than one week, were diagnosed as major depressive episode or 'depression'. This would support the hypothesis for the 'mood' category, that symptoms may have cleared quickly. However, further investigation of rationales for length of treatment for mood and psychotic cases is necessary and may support or refute assertions and findings that placement of children and adolescents in particular treatment programmes may be more influenced by 'system' factors (Friedman &

Street 1985; Ysseldyke et al, 1981).

The medical sector referred 46% of the adolescents to the unit and 60% of cases were referred to it on discharge. Moreover, cases which had been referred by community and educational sector were referred to the medical sector on discharge. This finding is contrary to the multi-agency approach increasingly advocated in the literature (Burns, 1991; England & Cole, 1992; Jack et al, 1988). Indications are that the transition from hospital and re-integration of adolescents into the community (Termini, 1991), may not be adequately attended to. This creates the impression of a closed feedback loop, where adolescent treatment is handled within the medical services. Mental health policy has been moving toward a more community orientation with a focus on primary health care (Health Policy Forum, 1992; Gillis, 1990; Slabber, 1991) and community involvement (Shisana & Versveld, 1993). Implications of these policy initiatives and indications from the literature suggest involvement of community organisations and education agencies in the prioritising and evaluation of treatment, is imperative.

Many of the cases referred to the medical service on discharge, would have been handled by the Lentegeur Adolescent units' out-patient follow-up department. This is consistent with Hersov & Bentovim's (1985) view of the in- patient unit being part of the overall treatment plan. However, there are at present no easily accessible records of this aspect of service delivery and it is difficult to ascertain the nature of this follow-up out-patient treatment which may involve a single session or a more lengthy period. Studies on the follow-up programme of the unit with a view to determining the efficacy of treatment is an urgent priority. An aspect of such a study could further investigate those, comprising 16% of referrals, who are not referred to any source on discharge or who discharge themselves. This grouping may contain those for whom the in-patient treatment is very effective and also very ineffective and thus be an invaluable source of information to the unit.

Analysis of the reasons for admission showed an increase in behavioural problems and suicidal attempts over the period studied. This finding may reflect a growing 'identity' of the unit, that is, that referral sources are increasingly regarding it as an appropriate treatment service for behavioural and suicide problems. In addition, this finding may be regarded as an adolescent response to social disintegration (Bundy, 1992), educational disintegration (Hartshorne, 1992), the destabilisation of family life (Mokwena, 1992) and increasing inter- personal violence (Flisher et al, 1993; Dawes, in press).

Family problems constitute nearly half (48%) of the accompanying reasons for admission and accompany a range of primary presenting problems including behavior problems, school problems and suicide. This finding provides strong support for the increase of parent-child alienation in adolescence (Parry-Jones, 1985), the involvement of family influences in psychopathology (Rutter & Cox, 1985) and importance of family treatment (Knitzer, 1982; Thompson et al, 1986). Moreover, it is an indication of the destabilisation of family life in the South African context (Mokwena, 1992; Dawes & Donald, in press). An increasing trend over the period studied to diagnose v-code family problems on axis I, may indicate a growing conceptualisation of the family as the context for the treatment of mental disorder.

However, only 10% of referrals come from families directly, and many may therefore be less committed to family orientated therapy. This finding sensitises as to the complexity of factors involved in the decision making regarding appropriate levels of treatment options (Hersov & Bentovim, 1985). Further studies could be directed towards detailing the range of factors involved in decisions regarding out-patient versus in-patient treatment.

The relationship between therapist and other variables, apart from age which did not yield any important interpretations, were not significant. This can be explained by the democratic team approach of the unit where cases are assigned as to availability and diagnoses discussed

in joint case conferences. This is, therefore, a positive finding of effective team work across disciplines. Psychologists were responsible for assigning and treating 52% of the cases described as showing axis II traits, which is to be expected given their training in personality theory and psychotherapy. The question can be raised as to specialisation of therapists according to training, be it as part of their original disciplines or part of the ongoing specialisation within the unit. Specialisation, as opposed to diversification, may have a positive spin off of stress reduction, necessary given the high number of stressful cases of psychopathology.

Post-traumatic stress disorder was noted as more common among females than males. Sexual problems (involving mainly rape and sexual abuse) were the most common accompanying reason for admission associated with post- traumatic stress disorder. The increase in diagnosis of post-traumatic stress disorder in 1990 may be an indication of the raised level of public awareness of sexual abuse and may point to the failure of community organisations to meet the increased need for treatment of such cases. This hypothesis should be further investigated. If the trend of increasing diagnosis of post-traumatic stress disorder has continued, staff training in dealing with such cases, or specialisation of a few staff members in this disorder would be necessary.

Although the period studied covered years of disruption in the South African society, there are relatively few cases presenting with anxiety or post-traumatic stress disorder, although it must not be assumed that this is a necessary response (Dawes, in press). In this study, post-traumatic stress disorder seems to be related to sexual abuse rather than being unrest or politically related. The lack of presentation of this type of case to the unit and community resources working in the area could be investigated in a further study as this seems to be indicative of a failure of social pressures to manifest psychiatrically.

5.2 Summary of Recommendations

From the findings, the following recommendations with regard to studies in which hypotheses may be tested, priorities for community involvement, priorities for intervention and Sonstraal policy and staff issues, emerge:

1. Hypotheses/ideas for studies:

    - Confirmation and elaboration of gender issues in the presentation and diagnosis of adolescent psychopathology
    - The extent of conduct disorder within the community and reasons for relatively few cases presenting to the hospital, including mechanisms within communities in dealing with adolescents with conduct disorders
    - Elaboration of the 'profiles' of those who are treated for very brief and for very long periods
    - The socio-cultural dimensions of school refusal and relation to adjustment disorder and family problems
    - Evaluation of the efficacy of treatment through follow-up studies and those who discharge themselves or are not referred to any source on discharge, that is, those for whom treatment is either very effective or very ineffective
    - Analyses of the relatively low number of affective disorders diagnosed at the unit and high numbers of adjustment disorder diagnosed
    - Socio-cultural dimensions of the presentation of and referral to mental health services, or lack thereof, of those affected by political or community violence

2. Priorities for community involvement:

- Networking with referral sources involved in the transition from inpatient treatment to the community and follow-up with these referral agencies
- Identification of mental health needs and referral of adolescents for treatment in rural and outlying areas considering cultural presentation of symptomatology
- Participation of the community in planning and evaluation of the service offered by the unit

3. Priorities for intervention:

    - Preventative education programmes aimed at the 14 to 16 age range
    - Family and community orientated intervention programme to deal with family problems and suicide among adolescents (within the 15-17 age range)
    - Education programmes concerning the identification of psychoses in the community and referral resources

4. Sonstraal policy and staff issues:

    - Criteria for inpatient versus outpatient treatment, particularly the use of out-patient treatment as a prelude to inpatient care
    - Clarification of criteria for and policy regarding the admission for assessment treatment option
    - Criteria for decision making regarding length of stay in the unit for different diagnoses of disorder
    - Clarification of the practice of diagnosing adjustment disorder due to possible underdiagnosis of mood disorders and diagnosis accompanied by axis II traits
    - Initiation of community participation in decision making and assessment of adolescent health care.

Appendix A

Tables

INSERT

KEY FOR TABLES

REASONS FOR ADMISSION

A	=	Anxiety
B	=	Behaviour problems
F	=	Family
M	=	Mood
O	=	Other
P	=	Psychoses
PH	=	Physical
S	=	Suicide
SC	=	School
SEX	=	Sexual

AXIS I DIAGNOSES

AD	=	Adjustment - Depression
ADJ	=	Adjustment
C	=	Conduct
F	=	v-code Family
M	=	Mood
O	=	Other
P	=	Psychoses
PH	=	Physical
PTS	=	Post-traumatic stress

AXIS II TRAITS

AS	=	Anti-social
AV	=	Avoidant
B	=	Borderline
H	=	Histrionic
MR	=	Mental Retardation
OB	=	Obsessive
P	=	Paranoid
PA	=	Passive-Agressive
SPD	=	Schizotypal
SCH	=	Schizoid
VAC	=	v-Academic problems
VBIQ	=	v-Borderline IQ

REFERRAL AGENTS

C	=	Community
E	=	Educational
F	=	Family
G	=	Government/Social
M	=	Medical
O	=	Other

AGE CATEGORIES

Y	=	Young (10-14 years)
M	=	Middle (15-17 years)
O	=	Old (18-21 years)

Table A.1: Frequencies of Referral Agents

Referral Agent	Freq	Percent	Cum.
Community	14	5.3%	5.3%
Community Clinic	16	6.1%	11.4%
Coloured Affairs	15	5.7%	17.0%
Children's Home	17	6.4%	23.5%
Family	24	9.1%	32.6%
Groote Schuur H	18	6.8%	39.4%
Groote Schuur H K4	17	6.4%	45.8%
Hospitals	19	7.2%	53.0%
Internal	20	7.6%	60.6%
Other Professional	25	9.5%	70.1%
Red Cross H	16	6.1%	76.1%
School Institution	6	2.3%	78.4%
School Medical	9	3.4%	81.8%
School Psychologist	10	3.8%	85.6%
School Teacher	20	7.6%	93.2%
Tygerberg Hospital	15	5.7%	98.9%
Self Referral	3	1.1%	100.0%
Total	264	100.0%	

Table A.2: Frequencies of Magisterial Districts

MAGISTERIAL DISTRICTS	Freq	Percent	Cum.
Belville	10	3.8%	3.8%
Bredasdorp	1	0.4%	4.2%
Cape Town	8	3.0%	7.2%
Caledon	1	0.4%	7.6%
Calvinia	1	0.4%	8.0%
Clanwilliam	1	0.4%	8.3%
East London	1	0.4%	8.7%
Goodwood	21	8.0%	16.7%
George	3	1.1%	17.8%
Hermanus	2	0.8%	18.6%
Kenhardt	1	0.4%	18.9%
Kuils River	6	2.3%	21.2%
Malmesbury	4	1.5%	22.7%
Namaqualand	5	1.9%	24.6%
Oudtshoorn	1	0.4%	25.0%
Paarl	3	1.1%	26.1%
Piketburg	1	0.4%	26.5%
Stellenberg	6	2.3%	28.8%
Somerset West	3	1.1%	29.9%
Strand	1	0.4%	30.3%
Van Rhynsdorp	1	0.4%	30.7%
Vredendal	3	1.1%	31.8%
Wynberg	173	65.5%	97.3%
Wellington	4	1.5%	98.9%
Worcester	3	1.1%	100.0%
Total	264	100.0%	

Table A.3: Frequencies of Referrals from Institutions

INSTITUTION	Freq	Percent	Cum.
Children's Home	17	45.9%	45.9%
Place of Safety	9	24.3%	70.3%
Reform School	3	8.1%	78.4%
School	4	10.8%	89.2%
School ofIndustry	4	10.8%	100.0%
Total	37	100.0%	

Table A.4: Frequencies of Referral Agents on Discharge

DISCHARGE AGENT	Freq	Percent	Cum.
Community Agencies	6	2.3%	2.3%
Coloured Affairs	11	4.2%	6.4%
Community Clinics	12	4.5%	11.0%
Children's Home	13	4.9%	15.9%
Groote Schuur H	3	1.1%	17.0%
Hospitals	3	1.1%	18.2%
Other Professionals	3	1.1%	19.3%
Lentegeur OPD	131	49.6%	68.9%
Plce of Safety	8	3.0%	72.0%
Reform School	2	0.8%	72.7%
Red Cross H	5	1.9%	74.6%
School	6	2.3%	76.9%
Self	24	9.1%	86.0%
School of Industry	2	0.8%	86.7%
Social Work	14	5.3%	92.0%
Tygerberg Hospital	4	1.5%	93.6%
none	17	6.4%	100.0%
Total	264	100.0%	

Table A.5: Frequencies of Reasons for Admission

Reason for Admission	Freq	Percent	Cum.
Anxiety	8	3.0%	3.0%
Behaviour	31	11.7%	14.8%
Bizarre B	13	4.9%	19.7%
Depression	20	7.6%	27.3%
Disorientation	3	1.1%	28.4%
Eneuresis	2	0.8%	29.2%
Family	4	1.5%	30.7%
Steal (family)	4	1.5%	32.2%
Hallucinations	7	2.7%	34.8%
Hysteria	2	0.8%	35.6%
Non-Compliance (med)	2	0.8%	36.4%
Mutilation	1	0.4%	36.7%
Psychosis	5	1.9%	38.6%
Physical	10	3.8%	42.4%
Sexual Abuse	9	3.4%	45.8%
Restlessness	6	2.3%	48.1%
Running away	9	3.4%	51.5%
Substance Abuse	16	6.1%	57.6%
Sexual problems	7	2.7%	60.2%
School Refusal	25	9.5%	69.7%
Stealing	4	1.5%	71.2%
Suicide	55	20.8%	92.0%
Decline school	7	2.7%	94.7%
Truant	14	5.3%	100.0%
Total	264	100.0%	

Table A.6: Frequencies of Axis I Diagnoses

AXIS I DIAGNOSES	Freq	Percent	Cum.
Adjustment	3	1.1%	1.1%
Adj.- Anxiety	1	0.4%	1.5%
Adj.- Conduct	8	3.0%	4.6%
Adj.- Conduct & Emotions	21	8.0%	12.5%
Adj.- Depresion	48	18.3%	30.8%
Adj.- Mixed emotions	16	6.1%	36.9%
Anorexia Nervosa	1	0.4%	37.3%
Anxiety- General.	2	0.8%	38.0%
Anxiety- Separation	1	0.4%	38.4%
Bipolar Affective	3	1.1%	39.5%
Bipolar A.- Manic	5	1.9%	41.4%
Bipolar A.- Organic	1	0.4%	41.8%
Conduct	7	2.7%	44.5%
Conduct- Group	9	3.4%	47.9%
Conduct- Mood	1	0.4%	48.3%
Conduct- Solitary	9	3.4%	51.7%
Depression	3	1.1%	52.9%
Dementia	1	0.4%	53.2%
Dissociative	3	1.1%	54.4%
Depression- Psychotic	1	0.4%	54.8%
Dysthymia	5	1.9%	56.7%
Eneuresis- Primary	1	0.4%	57.0%
Eneuresis- Secondary	1	0.4%	57.4%
Gender Identity	2	0.8%	58.2%
Hypomanic	1	0.4%	58.6%
Identity	3	1.1%	59.7%
Manic	1	0.4%	60.1%
Major Depression	9	3.4%	63.5%
Oppositional	1	0.4%	63.9%
Psychosis- Brief Reactive	5	1.9%	65.8%
Psychosis- Depression	1	0.4%	66.2%
Psychosis- Substance Abuse	3	1.1%	67.3%
Post-traumatic Stress	15	5.7%	73.0%
Substance Abuse	4	1.5%	74.5%
Somatoform- Body Dismorphic	1	0.4%	74.9%
Somatoform- Conversion	2	0.8%	75.7%
Schizophrenia	5	1.9%	77.6%
Somatoform Pain	1	0.4%	77.9%

continued next page

AXIS I DIAGNOSES	Freq	Percent	Cum.
V-Adoles.Anti-Social	1	0.4%	78.3%
V-Deferred	13	4.9%	83.3%
V-Family Circumstance	9	3.4%	86.7%
V-Family Problem	1	0.4%	87.1%
V-Life Circumstance	1	0.4%	87.5%
V-No Diagnosis	5	1.9%	89.4%
V-Non Compliance	1	0.4%	89.7%
V-Parent Child	25	9.5%	99.2%
V-Uncompl. bereavement	2	0.8%	100.0%
Total	263	100.0%	

Table A.7: Frequencies of Reasons for Admission (secondary)

Reasons for Admission (secondary)	Freq	Percent	Cum.
Anxiety	4	1.5%	1.5%
Behaviour	18	6.8%	8.3%
Bizarre beh	5	1.9%	10.2%
Depression	12	4.5%	14.8%
Eneuresis	2	0.8%	15.5%
Family	49	18.6%	34.1%
Family:Behaviour	13	4.9%	39.0%
Family:Death	16	6.1%	45.1%
Family:Divorce	25	9.5%	54.5%
Family:Foster	9	3.4%	58.0%
Family:Sexual Abuse	13	4.9%	62.9%
Hallucinations	7	2.7%	65.5%
Hysteria	1	0.4%	65.9%
Mutilation	1	0.4%	66.3%
N	11	4.2%	70.5%
Psychosis	4	1.5%	72.0%
Physical	9	3.4%	75.4%
Rape	12	4.5%	79.9%
Religiousity	1	0.4%	80.3%
Restless	1	0.4%	80.7%
Substance Abuse	6	2.3%	83.0%
Sexual problems	5	1.9%	84.8%
SexualAbuse	11	4.2%	89.0%
SS	1	0.4%	89.4%
Stealing	2	0.8%	90.2%
Suicide	12	4.5%	94.7%
Decline school	4	1.5%	96.2%
Truant	10	3.8%	100.0%
Total	264	100.0%	

Table A.8: Cross-tabulation of Age and Sex

Age	Sex		Total
	f	m	
12	1	6	7
13	16	15	31
14	26	36	62
15	38	28	66
16	35	22	57
17	10	13	23
18	8	5	13
19	1	1	2
22	1	0	1
Total	136	126	262

Chi square = 11.42
Degrees of freedom = 8
p value = 0.179

Table A.9: Cross-tabulation of Reasons for Admission (secondary) and Sex

Reasons (Secondary)	Sex		Total
	f	m	
Behaviour	14	21	35
Family	68	58	126
Mood	6	8	14
Other	8	6	14
Psychosis	7	9	16
Physical	8	6	14
Suicide	6	7	13
School	9	7	16
Sexual	11	5	16
Total	137	127	264

Chi square = 5.51
Degrees of freedom = 8
p value = 0.702

Table A.10: Cross-tabulation of Axis II Traits and Sex

Axis II Traits	Sex		Total
	f	m	
Anti-social	1	1	2
Avoidant	2	1	3
Borderline	1	1	2
Histrionic	14	2	16
Mental Retardation	3	4	7
Obsessive	1	0	1
Psychosis	0	1	1
Passive-Aggressive	5	6	11
Schizotypal PD	0	1	1
Schizotypal	2	0	2
V-Academic Problems	0	1	1
V-Borderline IQ	1	1	2
Total	30	19	49

Chi square = 13.79
Degrees of freedom = 11
p value = 0.245

Table A.11: Cross-tabulation of Referral Agent and Sex

Referral Agent	Sex		Total
	f	m	
Community	21	18	39
Educational	19	21	40
Family	13	14	27
Govt/Social	20	18	38
Medical	64	56	120
Total	137	127	264

Chi square = 0.63
Degrees of freedom = 4
p value = 0.960

Table A.12: Cross-tabulation of Agent on Discharge and Sex

Discharge Agent	Sex		Total
	f	m	
Govt/Social	24	22	46
Medical	84	74	158
Other	29	31	60
Total	137	127	264

Chi square = 0.41
Degrees of freedom = 2
p value = 0.815

Table A.13: Cross-tabulation of Therapist and Sex

Therapist	Sex		Total
	f	m	
Psychologist	58	66	124
Nurse	44	28	72
Occupational Therapist	11	13	24
Social Worker	24	20	44
Total	137	127	264

Chi square = 4.23
Degrees of freedom = 3
p value = 0.238

Table A.14: Cross-tabulation of Referral Agent and Age

Referral Agent	Age									Total
	12	13	14	15	16	17	18	19	22	
Community	2	5	8	13	6	3	1	0	1	39
Educational	0	4	11	7	10	4	4	0	0	40
Family	1	3	8	7	3	3	2	0	0	27
Govt/Social	0	6	7	14	9	1	1	0	0	38
Medical	4	13	28	25	29	12	5	2	0	118
Total	7	31	62	66	57	23	13	2	1	262

Chi square = 26.59
Degrees of freedom = 32
p value = 0.737

Table A.15: Cross-tabulation of Agent on Discharge and Age

Discharge Agent	Age									Total
	12	13	14	15	16	17	18	19	22	
Govt/Social	3	10	8	16	6	2	1	0	0	46
Medical	3	19	39	34	36	14	9	1	1	156
Other	1	2	15	16	15	7	3	1	0	60
Total	7	31	62	66	57	23	13	2	1	262

Chi square = 20.23
Degrees of freedom = 16
p value = 0.210

Table A.16: Cross-tabulation of Reasons for Admission (secondary) and Age Category

Reasons (Secondary)	Age Category			Total
	M	O	Y	
Behaviour	22	1	12	35
Family	65	11	49	125
Mood	9	1	4	14
Other	8	1	5	14
Psychosis	10	1	5	16
Physical	6	1	7	14
Suicide	8	0	5	13
School	10	0	5	15
Sexual	8	0	8	16
Total	146	16	100	262

Chi square = 8.64
Degrees of freedom = 16
p value = 0.928

Table A.17: Cross-tabulation of Axis I Diagnoses and Age Category

Axis I	Age Category			Total
	M	O	Y	
Adj.- Depression	1	1	5	7
Adjustment	60	8	28	96
Conduct	15	1	14	30
Family	18	2	15	35
Mood	19	4	8	31
Other	16	0	7	23
Psychosis	9	0	8	17
Physical	3	0	5	8
Post-traumatic Stress	5	0	10	15
Total	146	16	100	262

Chi square = 25.40
Degrees of freedom = 16
p value = 0.063

Table A.18: Cross-tabulation of Axis II Traits and Age Category

Axis II Traits	Age Category			Total
	M	O	Y	
Anti-social	2	0	0	2
Avoidant	1	0	2	3
Borderline	1	0	1	2
Histrionic	9	2	5	16
Mental Retardation	5	0	2	7
Obsessive	1	0	0	1
Psychosis	1	0	0	1
Passive-Aggressive	7	0	4	11
Schizotypal PD	0	1	0	1
Schizotypal	2	0	0	2
V-Academic Problems	0	0	1	1
V-Borderline IQ	0	1	1	2
Total	29	4	16	49

Chi square = 27.30
Degrees of freedom = 22
p value = 0.200

Table A.19: Cross-tabulation of Referral Agent and Age Category

Referral Agent	Age Category			Total
	M	O	Y	
Community	22	2	15	39
Educational	21	4	15	40
Family	13	2	12	27
Govt/Social	24	1	13	38
Medical	66	7	45	118
Total	146	16	100	262

Chi square = 3.06
Degrees of freedom = 8
p value = 0.931

Table A.20: Cross-tabulation of Agent on Discharge and Age Category

Discharge Agent	Age Category			Total
	M	O	Y	
Govt/Social	24	1	21	46
Medical	84	11	61	156
Other	38	4	18	60
Total	146	16	100	262

Chi square = 4.01
Degrees of freedom = 4
p value = 0.405

Table A.21: Frequencies of Secondary Reasons for Admission for stay less than 6 weeks

Reasons (Secondary)	Freq	Percent	Cum.
Behaviour	17	14.4%	14.4%
Family	52	44.1%	58.5%
Mood	9	7.6%	66.1%
Other	6	5.1%	71.2%
Psychosis	5	4.2%	75.4%
Physical	8	6.8%	82.2%
Suicide	5	4.2%	86.4%
School	5	4.2%	90.7%
Sexual	11	9.3%	100.0%
Total	118	100.0%	

Table A.22: Frequencies of Referral agent on Discharge for stay longer than 6 weeks

DISCHARGE AGENT	Freq	Percent	Cum.
Govt/Social	24	16.7%	16.7%
Medical	101	70.1%	86.8%
Other	19	13.2%	100.0%
Total	144	100.0%	

Table A.23: Frequencies of Referral Agent on Discharge for stay longer than 3 months

DISCHARGE AGENT	Freq	Percent	Cum.
Govt/Social	3	16.7%	16.7%
Medical	13	72.2%	88.9%
Other	2	11.1%	100.0%
Total	18	100.0%	

Table A.24: Cross-tabulation of Year of Admission and Axis II Trait

	YEAR OF ADMISSION				
AXIS II TRAITS	87	88	89	90	Total
Anti-social	1	1	0	0	2
Avoidant	1	0	1	1	3
Borderline	0	0	1	1	2
Histrionic	0	1	6	9	16
Mental Retardation	0	4	1	2	7
Obsessive	0	0	0	1	1
Paranoid	1	0	0	0	1
Passive-Aggressive	2	1	3	5	11
Schizotypal PD	0	1	0	0	1
Schizoid	0	0	2	0	2
V-Academic Problems	0	0	0	1	1
V-Borderline IQ	1	0	1	0	2
Total	6	8	15	20	49

Chi square = 44.84
Degrees of freedom = 33
p value = 0.082 $\Longleftarrow$

Table A.25: Cross-tabulation of Reasons for Admission (secondary) and Age

Reasons (Secondary)	Age									Total
	12	13	14	15	16	17	18	19	22	
Behaviour	1	3	8	13	5	4	1	0	0	35
Family	3	16	30	32	26	7	8	2	1	125
Mood	0	1	3	3	4	2	1	0	0	14
Other	0	1	4	2	5	1	1	0	0	14
Psychosis	0	1	4	4	5	1	1	0	0	16
Physical	2	2	3	4	2	0	1	0	0	14
Suicide	0	1	4	4	2	2	0	0	0	13
School	1	0	4	3	3	4	0	0	0	15
Sexual	0	6	2	1	5	2	0	0	0	16
Total	7	31	62	66	57	23	13	2	1	262

Chi square = 50.22
Degrees of freedom = 64
p value = 0.90 $\Longleftarrow$

Table A.26: Cross-tabulation of Axis I Diagnoses and Age

Axis I	Age									Total
	12	13	14	15	16	17	18	19	22	
Adj.- Depression	0	1	4	1	0	0	1	0	0	7
Adjustment	0	10	18	30	19	11	6	1	1	96
Conduct	2	3	9	8	5	2	1	0	0	30
Family	2	4	9	9	8	1	1	1	0	35
Mood	0	3	5	6	10	3	4	0	0	31
Other	1	2	4	6	8	2	0	0	0	23
Psychosis	1	1	6	4	2	3	0	0	0	17
Physical	1	0	4	1	2	0	0	0	0	8
Post-traumatic Stress	0	7	3	1	3	1	0	0	0	15
Total	7	31	62	66	57	23	13	2	1	262

Chi square = 67.85
Degrees of freedom = 64
p value = 0.347 $\Longleftarrow$

Table A.27: Cross-tabulation of Age Categories and Sex

Age Category	Sex		Total
	f	m	
Middle	83	63	146
Old	10	6	16
Young	43	57	100
Total	136	126	262

Chi square = 5.33
Degrees of freedom = 2
p value = 0.070

Table A.28: Cross-tabulation of Axis II Traits and Age

Axis II Traits	Age						Total
	13	14	15	16	17	18	
Anti-social	0	0	1	0	1	0	2
Avoidant	1	1	0	1	0	0	3
Borderline	0	1	0	1	0	0	2
Histrionic	0	5	3	5	1	2	16
Mental Retardation	1	1	2	2	1	0	7
Obsessive	0	0	1	0	0	0	1
Psychosis	0	0	0	0	1	0	1
Passive-Aggressive	2	2	6	1	0	0	11
Schizotypal PD	0	0	0	0	0	1	1
Schizotypal	0	0	2	0	0	0	2
V-Academic Problems	1	0	0	0	0	0	1
V-Borderline IQ	1	0	0	0	0	1	2
Total	6	10	15	10	4	4	49

Chi square = 67.47
Degrees of freedom = 55
p value = 0.121 $\Longleftarrow$

Table A.29: Cross-tabulation of Axis II Traits and Reasons for Admission

Axis II Traits	Reasons for Admission								Total
	A	B	M	O	P	PH	S	SC	
Anti-social	0	0	1	0	0	0	1	0	2
Avoidant	1	0	0	1	0	0	0	1	3
Borderline	0	1	0	0	0	0	1	0	2
Histrionic	0	9	1	1	1	1	2	1	16
Mental Retardation	0	1	0	1	2	0	0	3	7
Obsessive	0	1	0	0	0	0	0	0	1
Psychosis	0	0	0	0	1	0	0	0	1
Passive-Aggressive	1	3	4	1	1	0	1	0	11
Schizotypal PD	0	0	1	0	0	0	0	0	1
Schizotypal	2	0	0	0	0	0	0	0	2
V-Academic Problems	0	1	0	0	0	0	0	0	1
V-Borderline IQ	0	0	0	0	1	0	1	0	2
Total	4	16	7	4	6	1	6	5	49

Chi square = 88.38
Degrees of freedom = 77
p value = 0.177 $\Longleftarrow$

Table A.30: Cross-tabulation of Axis II Traits and Axis I Diagnoses

Axis II Traits	Axis I Diagnosis									Total
	AD	ADJ	C	F	M	O	P	PH	PTS	
Anti-social	0	1	0	0	0	1	0	0	0	2
Avoidant	0	1	0	0	1	0	0	1	0	3
Borderline	0	0	0	0	0	1	0	0	1	2
Histrionic	1	7	1	3	2	0	1	1	0	16
Mental Retardation	0	2	0	2	0	2	1	0	0	7
Obsessive	0	0	0	0	0	0	0	1	0	1
Paranoid	0	0	0	0	0	0	1	0	0	1
Passive-Aggressive	1	5	0	2	0	0	0	1	2	11
Schizotypal PD	0	0	0	0	1	0	0	0	0	1
Schizotypal	0	0	0	0	0	2	0	0	0	2
V-Academic Problems	0	0	0	0	1	0	0	0	0	1
V-Borderline IQ	1	1	0	0	0	0	0	0	0	2
Total	3	17	1	7	5	6	3	4	3	49

Chi square = 102.58
Degrees of freedom = 88
p value = 0.137 $\Longleftarrow$

Table A.31: Cross-tabulation of Therapist and Axis II Trait

Therapist	Axis II Traits												Total
	AS	AV	B	H	MR	OB	P	PA	SPD	SCHZ	VAC	VBIQ	
Psychologist	1	1	1	9	4	1	1	6	0	0	0	2	26
Nurse	0	0	0	7	1	0	0	2	0	0	0	0	10
Occupational	0	1	1	0	1	0	0	2	0	0	1	0	6
Social Worker	1	1	0	0	1	0	0	1	1	2	0	0	7
Total	2	3	2	16	7	1	1	11	1	2	1	2	49

Chi square = 46.13
Degrees of freedom = 33
p value = 0.064 $\Longleftarrow$

Table A.32: Cross-tabulation of Referral Agent and Axis II Trait

Referral Agent	Axis II Traits												Total
	AS	AV	B	H	MR	OB	P	PA	SPD	SCHZ	VAC	VBIQ	
Community	0	1	0	1	2	0	0	1	0	0	0	0	5
Educational	0	1	2	3	1	0	0	1	0	0	0	1	9
Family	0	0	0	1	0	0	0	1	0	2	0	0	4
Govt/Social	1	0	0	4	1	0	0	1	0	0	0	0	7
Medical	1	1	0	7	3	1	1	7	1	0	1	1	24
Total	2	3	2	16	7	1	1	11	1	2	1	2	49

Chi square = 48.51
Degrees of freedom = 44
p value = 0.296 $\Longleftarrow$

Table A.33: Cross-tabulation of Therapist and Reasons for Admission

Therapist	Reasons for Admission								Total
	A	B	M	O	P	PH	S	SC	
Psychologist	7	36	13	9	13	4	24	18	124
Nurse	4	18	8	8	5	3	19	7	72
Occupational Therapist	0	9	4	0	1	2	4	4	24
Social Worker	2	12	2	4	9	3	9	3	44
Total	13	75	27	21	28	12	56	32	264

Chi square = 19.14
Degrees of freedom = 21
p value = 0.576

Table A.34: Cross-tabulation of Referral Agent and Reasons for Admission (secondary)

Referral Agent	Reasons (Secondary)									Total
	B	F	M	O	P	PH	S	SC	SEX	
Community	4	18	1	3	1	1	4	4	3	39
Educational	9	17	2	3	3	1	3	1	1	40
Family	2	14	1	4	2	1	1	1	1	27
Govt/Social	8	16	2	1	2	0	3	1	5	38
Medical	12	61	8	3	8	11	2	9	6	120
Total	35	126	14	14	16	14	13	16	16	264

Chi square = 37.80
Degrees of freedom = 32
p value = 0.222

Table A.35: Cross-tabulation of Therapist and Reasons for Admission (secondary)

Therapist	Reasons (Secondary)									Total
	B	F	M	O	P	PH	S	SC	SEX	
Psychologist	16	52	9	8	7	6	6	13	7	124
Nurse	10	42	3	0	4	4	2	3	4	72
Occupational Therapist	3	10	1	2	1	2	4	0	1	24
Social Worker	6	22	1	4	4	2	1	0	4	44
Total	35	126	14	14	16	14	13	16	16	264

Chi square = 29.32
Degrees of freedom = 24
p value = 0.208

Table A.36: Cross-tabulation of Therapist and Axis I Diagnosis

Therapist	Axis I Diagnosis									Total
	AD	ADJ	C	F	M	O	P	PH	PTS	
Psychologist	2	48	18	12	16	8	8	5	7	124
Nurse	2	26	5	11	10	7	3	1	7	72
Occupational Therapist	2	9	2	3	3	4	0	0	1	24
Social Worker	1	15	5	9	2	4	6	2	0	44
Total	7	98	30	35	31	23	17	8	15	264

Chi square = 26.71
Degrees of freedom = 24
p value = 0.318

Table A.37: Cross-tabulation of Agent on Discharge and Axis II Traits

Discharge Agent	Axis II Traits												Total
	AS	AV	B	H	MR	OB	P	PA	SPD	SCHZ	VAC	VBIQ	
Govt/Social	1	0	0	4	1	0	0	2	0	0	0	1	9
Medical	1	3	1	9	4	1	1	8	1	0	1	0	30
Other	0	0	1	3	2	0	0	1	0	2	0	1	10
Total	2	3	2	16	7	1	1	11	1	2	1	2	49

Chi square = 19.92
Degrees of freedom = 22
p value = 0.588

Table A.38: Cross-tabulation of Therpaist and Referral Agent

Therapist	Referral Agent					Total
	C	E	F	G	M	
Psychologist	16	23	9	14	62	124
Nurse	11	8	10	12	31	72
Occupational Therapist	5	2	3	4	10	24
Social Worker	7	7	5	8	17	44
Total	39	40	27	38	120	264

Chi square = 8.40
Degrees of freedom = 12
p value = 0.753

Table A.39: Cross-tabulation of Therapist and Referral Agent

Therapist	Referral Agent			Total
	G	M	O	
Psychologist	17	79	28	124
Nurse	14	44	14	72
Occupational Therapist	4	16	4	24
Social Worker	11	19	14	44
Total	46	158	60	264

Chi square = 7.49
Degrees of freedom = 6
p value = 0.274

Table A.40: Frequencies of Agent on Discharge for stay less than one week

DISCHARGE AGENT	Freq	Percent	Cum.
Govt/Social	2	11.1%	11.1%
Medical	3	16.7%	27.8%
Other	13	72.2%	100.0%
Total	18	100.0%	

Table A.41: Frequencies of Reasons for Admission for stay less than 6 weeks

REASONS FOR ADMISSION	Freq	Percent	Cum.
Anxiety	5	4.2%	4.2%
Behaviour	35	29.7%	33.9%
Mood	16	13.6%	47.5%
Other	8	6.8%	54.2%
Psychosis	13	11.0%	65.3%
Physical	4	3.4%	68.6%
Suicide	25	21.2%	89.8%
School	12	10.2%	100.0%
Total	118	100.0%	

Table A.42: Frequencies of Secondary Reasons for Admission for stay longer than 3 months

REASONS (SECONDARY)	Freq	Percent	Cum.
Behaviour	3	16.7%	16.7%
Family	9	50.0%	66.7%
Other	1	5.6%	72.2%
Psychosis	2	11.1%	83.3%
Physical	1	5.6%	88.9%
School	2	11.1%	100.0%
Total	18	100.0%	

Table A.43: Frequencies of Axis II Traits for stay longer than 3 months

AXIS II TRAITS	Freq	Percent	Cum.
Histrionic	2	40.0%	40.0%
Obsessive	1	20.0%	60.0%
Paranoid	1	20.0%	80.0%
Schizotypal PD	1	20.0%	100.0%
Total	5	100.0%	

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